Florida Specifier

FLORIDA REMEDIATION CONFERENCE South
May 9, 2012

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Practical Information For Environmental Professionals

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EPA to test for toxic dust at Gainesville Superfund site

By DAN MILLOTT

For years, residents near the Cabot-Koppers Superfund site in Gainesville expressed concern about contamination in the air caused by the wood treating plant's operations.

There was also an added concern—possible contamination inside homes adjacent to the site or a short distance away.

The U.S. Environmental Protection Agency decided last fall to initiate a program to test for dioxin dust and other possible contaminants inside homes.

Chris Bird, director of Alachua County's Environmental Protection Department, said letters were recently sent to 400 property owners in the area outlining the details of the test and asking them to let environmental technicians enter their homes to conduct the testing.

Of the 400 property owners who received letters, Bird said they plan to select 15 in the immediate area of the Superfund site and 15 some varied distances removed from it.

The tests will try to determine if there is any dioxin inside the homes. Dioxin compounds could include some cancer-causing agents.

"As far as I know, this will be first test of its kind in Florida," he said.

Some of the testing methods to be used will be akin to those used in lower Manhattan after the Twin Towers collapsed on 9/11.

While not duplicating those methods, the tests in Gainesville will draw from the test methods developed in Manhattan.

A lawsuit was filed in 2010 by some Gainesville residents but later withdrawn. In that litigation process, lawyers representing the plaintiffs conducted limited testing inside homes, but that data is not available to the EPA or Alachua County's environmental staff.

The letters were mailed in January and some responses have come back. Bird said they are hoping to get the widest response possible before they select the homes to be tested.

"Our goal is to cast a pretty wide net so that we come up with a sample that is statistically valid," he said.

After the plant closed in 2009, it was sold to Beezer East Inc. Over the years when in operation, large trucks would come and go from the property hauling large utility poles. Back then, the road was unpaved and a dirt surface covered the plant area.

Since the acquisition by Beezer, they have planted grass and completed some grading that has helped reduce the level of dust. Most of the buildings once used at the facility have been demolished.

Bird said the criteria for selecting participating homes will include the size of the home, the age and type of construction.

While they are looking for dioxins, Bird indicated they will also be checking for other contaminants present.

"The tests will probably show the presence of fire retardants in furniture upholstery, drapes and flat screen TV's," he said. "They may be reported as dioxins, but they're not."

SUPERFUND
Continued on Page 15

Photo courtesy of St. Johns River Water Management District

St. Johns River Water Management District field biologist measures water clarity during the recent Resultor species microalgae bloom in the Indian River Lagoon. See story below.

Upper Indian River algae bloom sets size, duration records

By ROY LAUGHLIN

In a world where increasing frequency of extreme cases is the new norm, 2011's microalgae bloom in the upper Indian River was notable for its duration and areal coverage.

"We have not seen chlorophyll at levels this high in the lagoon for a long time. It is a long term, high intensity bloom. It is unprecedented in our records (dating back 30 years)," said Joel Steward, technical program manager in the Estuaries Section of the Environmental Sciences Bureau at the St. Johns River Water Management District.

Steward was referring to the microalgae bloom in the upper Indian River from Eau Gallie north to Mosquito Lagoon that began in April, 2011, and continues today in small pockets around Titusville and Mosquito Lagoon.

The bloom began in April, 2011, in the Banana River, moved through the Barge Canal and spread to the Indian River through the summer and fall.

While microalgae blooms are part of the primary productivity cycles in the Indian River Lagoon system, one that spans approximately 40 percent of the area, at any intensity, is unusual.

At one point, samples of 130 mg/L of chlorophyll-a were taken during the bloom. Throughout the summer, samples containing 20–60 mg/L chlorophyll-a were routinely taken.

Steward said that median chlorophyll-a levels for the Indian River Lagoon are 3.5—5.5 mg/L. Microalgae densities were approximately an order

BLOOM
Continued on Page 14

In Memorium: Christopher Kohl

Chris Kohl passed away in February. He was a consummate environmental professional and a diligent pioneer in the development of educational programs for the solid waste industry.

A chemist through education and industry experience, he embodied the renaissance spirit in pursuit of education and knowledge that he applied in developing solutions for environmental problems.

An excellent instructor with extremely broad experience, he developed the practice of delivering his expertise to facilities and problem sites state-wide. All Floridians have benefitted from his efforts.

Access to pollution data available using new EPA visualization tool

Staff report

The U.S. Environmental Protection Agency's new Discharge Monitoring Report's Pollutant Loading Tool makes reported chemical emission data publicly accessible.

The tool is a combination database and visualization program that assembles records of chemicals and pollutants released to aquatic environments.

The databases include millions of records to allow searching and mapping of water pollution by pollutant, industry sector or company, watershed or even local area.

The new tool is compatible with multiple levels of user sophistication. At the simplest level, a user may request "top 10" lists that identify areas of greatest pollutant release, the facilities and industries responsible for them, or the most impacted water bodies that result.

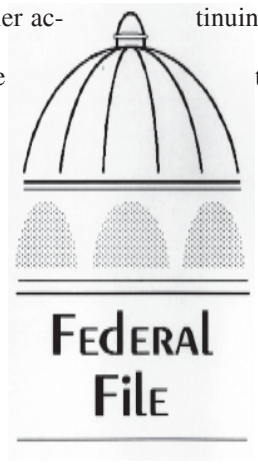
Viewers may also obtain information about violations and resulting EPA and state enforcement actions.

Using more sophisticated search queries, DMR identifies permitted facilities such as wastewater treatment plants and industrial manufacturers. Permit discharge levels and required sampling data are also available through this system.

A link to DMR is available on the EPA's Enforcement and Compliance History Online website.

On the site, the EPA has added additional reporting capability including criminal enforcement cases and web developer tools to provide easier access to reports and maps.

ECHO and a link to DMR are available at http://www.epa-echo.gov/echo/.



2010 Toxics Release Inventory available. In 2010, 3.9 billion pounds of toxic chemicals were released to the environment in the U.S. In spite of the poor economy, releases increased 16 percent from 2009.

The EPA attributed the increase to a single economic sector: metal mining. The agency noted that even small reductions in the metal content of ores will substantially increased waste quantities because of the large amounts of material involved in the first place. This contributed substantially to the 28 percent increase since 2009 in wastes disposed on land. In addition to primary metal industries, chemical industries also reported increased emissions.

Releases to surface waters increased nine percent over 2009.

On the bright side, total air releases decreased six percent since 2009, continuing a recent trend.

Interpreting in terms of long-term trends, releases in 2010 were higher than those reported in 2009 and 2008, but still lower than 2007 releases.

Changes in local toxic releases can be substantial. Brevard County's total emissions, for example, have fallen 90 percent since 2007, attributable to changes in emissions from only two industrial facilities in Brevard.

The Sea Ray boat building plant's styrene emissions have fallen considerably during the recent recession as boat sales bottomed out.

In addition, FPL's oil burning power plant in Frontenac has been torn down and will be replaced with a natural gas-fueled plant now under construction. These two facilities are, according to the TRI, responsible for 90 percent of permitted emissions in this county.

The TRI is available on line at http://www.epa.gov/tri/.

Sustainable infrastructure. The Obama administration's American Recovery and Reinvestment Act provided substantial funding for the repair and upgrading of infrastructure for drinking water and wastewater treatment facilities.

But those hundreds of billions of dollars were only the tip of the iceberg of the funding needed to raise the low grade that the American Society of Civil Engineers gives the country's water systems.

A new report by the Johnson Foundation, American Rivers and Ceres, "Financing Sustainable Water Infrastructure," provides a deeper view of the circumstances and needs the country must address to obtain "a secure future for sustainable water infrastructure."

The report includes the usual recommendations for improving sustainability. They include improved efficiencies, green infrastructure, closed loop systems and water recycling.

The report also recommends "flexible water pricing" arising from a distinction between potable water and that of lesser quality still useful for irrigation and industrial processes.

This report is notable for dealing less with technology and more with the economics of water sustainability.

It includes a discussion of system-wide full-cost accounting of water services and financing mechanisms.

It advises that state and federal funding sources will become far less significant in the future, shifting costs to private, market-based financing mechanisms that ultimately will be paid by local water customers.

The report is part of an initiative, "Charting New Waters," that the Johnson Foundation and its partners formally launched in 2010. The goal of the effort is "to catalyze new solutions to U.S. freshwater challenges."

The report is available online at http://www.johnsonfdn.org/page/convening-financing-sustainable-water-infrastructure-systems.

EPA delays dioxin study release. Since the Agent Orange scandal following the Vietnam War, any reference to the environmental and health effects of dioxin have evoked strong opinions from different groups, even in the absence of scientifically vetted technical information.

The EPA published its first dioxin report in 1983 in which dioxins were characterized as "likely human carcinogens."

In that report, the EPA conferred the characterization because these chemicals accumulate in fatty tissues, bioaccumulate through food chains, and for humans, are taken up from meats, dairy products, fish and shellfish.

Vietnam veterans are one identifiable group claiming substantial exposure to dioxins. Following the Vietnam War, many veterans claimed their exposure to dioxin-containing Agent Orange produced chronic health problems and birth defects in their offspring.

The EPA promised a human health and cancer risk assessment of dioxin, originally scheduled for release in 1990. After almost a quarter of a century, the EPA promised to release the report at the end of January, 2012. When that deadline passed, the agency said that the report would be "finalized as expeditiously as possible."

The delay, according to industry opponents, is warranted because if Americans follow government-promulgated food consumption guidelines, most will be exposed to more food-borne dioxin than anticipated dioxin standards would allow.

The American Farm Bureau Federation, leading a large group of other food-related advocates, expressed concern that the EPA's current approach will "inadvertently mislead and frighten consumers about the safety of food."

Water pollution fine. American Marine Management Services Inc. has been found guilty in the Southern District Court of Florida of oil pollution and ballast water crimes. The company has been ordered to pay $1 million in fines and placed on five years probation.

Probation requirements specifically stipulate that American Marine must complete an environmental compliance plan for its eight ships. Half of the fine will be given to the South Florida National Parks Trust, a nonprofit charitable organization that operates for the benefit, preservation and restoration of the environment and ecosystems of the waters of the U.S. in South Florida.

Charges stem from American Marine's operation of the Titan Express from its terminal on the Miami River. The U.S. Coast Guard, during what was apparently a routine check, found excessive oil and diesel fuel leaking from the Titan Express's engine.

The Coast Guard then discovered that the ship's oil/water separator was not working properly. Record books required by law were apparently falsified but did include a statement to the crew advising that illegal procedures should be conducted to get rid of oil-contaminated bilge water.

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More testing needed at Delray Beach's Carver Square

Staff report

The Florida Department of Environmental Protection is stepping in to undertake more testing at the Carver Square subdivision in Delray Beach.

Despite cleanup efforts and repeated testing, development in the area is still not possible because iron levels in the groundwater remain higher than standards allow.

Environmental assessment and cleanup funded by a $50,000 grant could be completed by June 30.

The subdivision was built on top of a five-acre landfill. In 1988, the first of the homes in Carver Square started showing structural damage.

Residents asked the city for help. The Delray Beach Community Redevelopment Agency stepped in, spending $2.3 million on the properties and relocating residents.

Future single family homes will likely tap into the city's water distribution system for drinking water.

Palm Beach contamination. Workers have hauled 1,700 tons of contaminated soil from Phipps Ocean Park in Palm Beach for disposal at a Pompano Beach landfill. The historic Little Red Schoolhouse, used by the Preservation Foundation as an educational field trip destination for children in the county, is now closed.

Workers discovered the contamination in 2009 while replacing an old underground fuel storage tank.

The fuel is used for an emergency generator that runs a pump station at the park. Tests at the site revealed high levels of arsenic and the pesticide dieldrin.

When this phase of work is complete, the town will have the groundwater tested for possible contamination.

Landfill rejected, again. DEP has said it will reject a new proposal by Angelo's Aggregate Materials to build a private landfill in eastern Pasco County.

State officials fear that a sinkhole could open below the landfill and send waste into drinking water aquifers and the nearby Green Swamp.

Angelo's cut the initial size of the landfill from 90 to 30 acres. It argued that a study of nearby landfills shows the risk to be minimal.

Several Tampa Bay area lawmakers have expressed concerns about the project. Three state senators have sent a letter to DEP Secretary Herschel Vinyard asking for permit denial.

Even if Angelo's had received approval of the environmental permit, it would still have had to persuade the county commission to change the property zoning classification from agricultural/ residential to public or semi-public.

Mangrove cut draws major fine. A magistrate ruled that a Jupiter couple must pay $1.6 million for cutting down mangroves. Roger and Myrna Byrd must pay the town of Jupiter $15,000 per tree. The Byrds must also pay the town legal fees, according to the ruling.

An attorney representing the couple said they would appeal.

The Byrds turned down a compromise offer from the town last year to pay a fine of $109,000 or $1,000 a tree.

Jupiter officials say the couple violated a law that requires permit approval from both the town and DEP before removing mangroves, which are protected under state law.

Airport lawsuit settled. A lawsuit has been settled over cost overruns and environmental fines levied during airport construction in Panama City.

Phoenix Construction and the Northwest Florida Beaches International Airport Authority agreed to drop their claims against each other. They also decided to seek damages from the project engineers, PBS&J and Kellogg Brown & Root.

James Finch, owner of Phoenix Construction, filed a lawsuit against the airport authority in December 2010.

He claimed the airport and the project engineers were responsible for the problems that created the cost overruns and environmental fines. He said the airport still owed him as much as $10 million.

But after further investigation, they realized the engineers were solely to blame.

The airport hired an outside company to re-sod when the initial sodding failed. Phoenix claims that the subcontractor was not properly permitted.

DEP hit the project with fines when officials found stormwater runoff in nearby creeks.

Florida Notes

Ormond Beach brownfield. A seven-member Brownfield Advisory Board has been established in Ormond Beach.

Members will have powers and duties defined by Florida statutes to hold meetings, seek public participation and review development plans.

The board will review proposed redevelopment agreements and provide comments to the city commission, and also review and provide comments regarding the assessment reports or technical documents.

Gas-to-energy award. Charlotte County's Zemel Road Landfill's gas-to-energy facility has been selected as project of the year by the U.S. Environmental Protection Agency's landfill methane outreach program.

The program's project-of-the year awards are based on innovation and creativity, environmental and economic success.

The program seeks to reduce methane gas emissions from landfills by encouraging the recovery and use of landfill gas as an energy resource. Five projects received awards.

People news. Cari L. Roth, an attorney with Bryant Miller Olive in Tallahassee, was appointed as chair of the state Environmental Regulation Commission. Roth has served on the ERC since 2003. She has 25 years of public and private sector legal and legislative experience includ-

NOTES
Continued on Page 15

Polk County's Lake Region district seeks more control of water structures

Staff report

The Lake Region Lakes Management District is pushing to get more control over water control structures in the Winter Haven Chain of Lakes. District Executive Director Roger Griffiths recently outlined his case before the Polk County Commission seeking their support.

The Lake Region seeks control to keep more water in Winter Haven lakes. The water control structures there are owned by the Southwest Florida Water Management District.

Griffiths told the commission that local control would be a plus for Winter Haven and the county's water supply.

The district's effort garnered support from two area legislators, State Sen. J.D. Alexander, R-Lake Wales, and State Rep. Ben Albriton, R-Wauchula, who sent letters of support.

But final approval for giving more control to the Lake Region has to come from Swiftmud's governing board. No date had been set to take up the issue at the district.

Griffiths has debated with the water management district for some time on when and how often water is released through the structures.

Griffiths, Winter Haven officials and other groups contend that the frequent release of water deprives Polk County of the water it needs.

Water sale? The city of Cocoa in Brevard County draws its drinking water from a rural portion of eastern Orange County. Now Cocoa has offered to sell water back to Orange County Utilities.

Not surprisingly, the offer does not sit well with Orange County officials since Cocoa proposed selling the water and making a profit on the deal.

THE WATER WATCH

For years, Cocoa has been drawing water from Taylor Creek Reservoir—a little-known body of water in Southeast Orange and Northeast Osceola counties. The 10,000-acre reservoir has been targeted as a source of additional water to satisfy the ever-increasing demands of the growing Central Florida region.

Cocoa, other local governments and a major local land owner have struggled to hammer out an agreement for sharing the water.

When Cocoa proposed a deal calling for a profit on the water they sell, Orange County Utilities refused to sign off.

The Taylor Creek Reservoir, with the cleanest and cheapest surface water in Central Florida, is viewed as an attractive new source for area water needs.

Currently the region now relies on wells that draw water from the Floridan Aquifer. Water officials in the area say that aggressive aquifer pumping is adversely affecting area springs, rivers, lakes and wetlands.

The reservoir is on the 450-square mile Deseret Ranches, a large producer of cattle.

In early January, farming partners of the ranch began planting a potato crop on several hundred acres and will irrigate with water from the reservoir. They also plan to plant other crops.

Teresa Remudo-Fries, deputy director of Orange County Utilities, said negotiations are continuing and that the long term objective is still working out a regional approach to water use.

Duke Field hookup. Okalossa County officials are taking steps to connect Duke Field to the county's wastewater system.

Jeff Littrell, Okalossa's water and sewer director, said the work will be done in-house and should be completed by September.

The plan is to build a pump station at Duke Field and run a force main that ties in to an existing 17-mile force main the county built for the 7th Special Forces Group. Duke Field plans to close its wastewater treatment plant later this year.

The county is currently getting quotes for materials, surveying and construction. Littrell said estimated costs are in the $1.5 million range.

Upon completion, the project will generate $60,000-$70,000 a year in new revenue for the county.

The Duke Field project is the first phase of the larger Eglin Wastewater Configuration Project.

Fort Pierce shore protection. The U.S Army Corps of Engineers announced an early start for dredging associated with the Fort Pierce Shore Protection project.

A $5.5 million contract was awarded to Manson Construction in September, 2011. Work on the project, which was authorized by the Water Resources Act of 1996, began in February.

The work calls for the dredging of 416,000 cubic yards of beach quality material from Capron Shoal. It will be relocated 4.5 miles away on 4,350 linear feet of beach immediately south of the inlet in St. Lucie County.

Because St. Lucie beaches experience extensive erosion, the renourishment intervals are every two years. The corps said that other Florida beaches with less erosion need renourishment every 10 years.

Manatee Port settles. The Manatee Port Authority reached a tentative $3.3 million settlement with a Michigan contractor that dredged Berth 12 at the port.

Great Lakes Dredge & Dock filed a $4.8 million claim against the port authority last year for expenses incurred by project delays. The delays were caused by leaks in pipes and storage sites that housed stored materials at Piney Point.

The settlement agreement allows both parties to avoid a long court battle. Under terms of the agreement, the authority will make seven interest-free payments to Great Lakes over a 30-month period with the initial payment due June 1.

Port Manatee officials said they intend to pursue repayment from other third party sources responsible for the delays.

Last June, storage liners sprung leaks, spilling dredged materials into Bishop Harbor downstream from Piney Point. That created an environmental problem that halted the project for a month.

The Berth 12 project is now complete and signals the opening of South Port, a $200 million decade-long project that permits larger ships to use Port Manatee.

Sanford WW project. The city of Sanford will seek bids on a $13-million wastewater treatment project aimed at reducing pollution entering the St. Johns River.

They plan to put the project out for bid within the next three months.

Sanford will seek a contractor specializing in wastewater or environmental projects. It's estimated the project would employ 130 construction workers during construction.

Reducing Everglades pollution. U.S. District Judge Alan Gold called on federal and state environmental officials to take more action to reduce pollution in the Florida Everglades.

Gold, who has been sharply critical of the pace of restoration efforts in the Everglades, said at a hearing in early January that he intends to hold officials' feet to the fire on the pollution issue.

The federal court involvement stems from a 2004 lawsuit brought by the Mic-

WATCH
Continued on Page 5

High Springs retains federal dollars for wastewater system connections

By PRAKASH GANDHI

Officials in the city of High Springs plan to forge ahead with a multi-million dollar sewer project after a concerted effort to maintain federal dollars for the work.

Last October, the U.S. Department of Agriculture informed the city that it planned to cancel about $1.6 million remaining from a 2005 grant.

Federal officials made that decision because the segments of the sewer systems funded by the grant came in under budget and the city did not spend the money within five years of the award.

The city planned to use the extra money to cover the costs of hooking up residents to the sewage system.

High Springs appealed the USDA decision, arguing the case before a hearing officer in January.

The officer ruled in favor of the city, meaning that $1,600,000 in grant funds will remain with the city to make the additional connections.

"This is great news. We're very pleased," said High Springs City Planner Christian Popoli.

City officials said they appealed because they were never given a revised letter of condition. They said they were left with the impression that funding was in place to finish the system.

In August 2005, the USDA Rural Development program approved a loan not to exceed $6.35 million and a grant not to exceed $4.05 million for the construction of phases two and three of the High Springs sewer system.

The project was originally approved in 2001 with an expected cost of $26 million. It was designed in five phases so that the city could complete the project using a financial split of 55 percent loan and 45 percent grant.

The project was proposed as part of a redevelopment plan prepared by the University of Florida in 1986. That plan concluded that the lack of a city-wide wastewater facility was a severe health hazard for High Springs residents.

City officials said bids for the project came in under their original cost estimates. The city then cut a change order.

The reason High Springs officials did not meet the time frame for using the grant funds was because they were working out details of that change order.

Popoli said that about 150 new customers will be hooked up to the system.

"This was worth appealing," he said. "We had invested a lot of time but also money to design these new connections and got no warning that this was going to happen."

WATCH

From Page 4

cosukee Indian Tribe claiming that federal and state officials have repeatedly failed to enforce Clean Water Act standards in the wetlands.

Last year, the U.S. Environmental Protection Agency proposed a $1 billion restoration plan focused on expanding marshes used to filter phosphorus from the water before it flows into the Everglades.

Florida Gov. Rick Scott proposed an alternative program that is now being reviewed by the EPA.

Bottling challenge tossed. Marion County Circuit Judge Frances King dismissed a challenge by a Salt Springs man who sought to stop a proposed water bottling operation near Lake George.

George Hill petitioned the court saying the Marion County Commission violated their own land development code by granting the Moody Family approval to draw 100,000 gallons of water daily from an artesian well on the shores of Lake George.

He claimed the Moody operation would be an industrial use in a rural area.

The original approval by the commission allowed 20 trucks to go to and from the well daily to transport water to a bottling plant in Ocala.

Part of King's rejection of Hill's action involved a missed deadline to file the protest.

The judge, in a written opinion, said the county commission's decision granting project approval followed the "essential requirements of the law."

The judge dismissed the Hill petition without prejudice, meaning he can't bring it up again.

The Ocala business community lauded the proposed water bottling plant claiming it would create 120 new jobs and bring in $35 million in investment to the area.

DeBary stormwater improvements. It's been four years since Tropical Storm Fay brought flooding that inundated over 100 homes in Debary. But since then, federal dollars have become available to help solve the flooding problem.

In early January, Rep. John Mica, R-Winter Park, notified Debary City Manager Dan Parrott that another $1.175 million will be coming to fund additional stormwater improvements.

Parrott said the funds will cover about 75 percent of project costs. Work should begin in about 45 days once the Federal Emergency Management Agency gives its final approval.

Two areas that will receive attention first are Pine Valley Court in the Glen Abbey subdivision and No Name Lake just north of East Highland Road.

The plan is to construct gravity outfall systems that will carry stormwater to the city's borrow pit and DeBary Bayou. The projects have already been permitted by the St. Johns River Water Management District. Parrott estimates they will be completed by the end of summer, 2012.

West Wabasso sewer grant. West Wabasso residents, many whom live with backed up septic tanks after rain, will likely see a sewer system for their community by the spring of 2013.

Indian River County received a $750,000 grant from the state's new Department of Economic Opportunity.

The grant covers $670,000 for sewer lines and equipment to help 123 people with very low to moderate incomes, $20,000 to dredge the community's drainage ditches, and $60,000 in administrative fees by county consultants.

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In addition, our conference provides continuing education credits for professional geologists and other professionals licensed in states that require continuing education to maintain licenses.

Kovens Conference Center

FRC-South will be held in North Miami at the Roz and Cal Kovens Conference Center on the Biscayne Campus of Florida International University. The conference center is conveniently located off Biscayne Blvd. (Highway 1), just south of the Broward County line in Miami-Dade County.

Directions to the conference center are available on the Kovens Conference Center web page at http://kovens.fiu.edu/.

Hotel Information

We have reserved a block of sleeping rooms at two nearby hotels for your convenience: the Marenas Resort in Sunny Isles Beach (305-503-6000; $149 for studio room/night) and the Daddy O Hotel in Bay Harbor Islands (305-868-4141; $80/night). Make your room reservations directly with the hotels. Identify yourself as an attendee of FRC-South when booking your room for the reduced room-block rates. These special room rates will be available until April 9, 2012, or until the group block is sold-out, so reserve your rooms as soon as possible.

Registration

The registration fee for the 2012 FRC-South Conference is $185. This fee includes full registration for the one-day conference, conference materials and flash drive, continental breakfast, beverage breaks and the luncheon.

To register for the conference, 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. Please note: Payment in full is required to confirm your registration. Cancellations received before April 9, 2012, will be refunded, less a $50 service charge. No refunds will be made for cancellations received after that 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.

2012 FRC-South Registration

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Technical Agenda

9:00 Welcome: Mike Eastman, *Florida Specifier*
Keynote Address:
John Barkett, Partner
Shook, Hardy & Bacon LLP, Miami

9:30 **ASTM E 1903-11 Phase II Environmental Site Assessments: Where, How and Why is it Relevant?**
Nick Albergo, PE, DEE, Principal
HSA Engineers & Scientists, Tampa

10:00 **Risk-Based Closure and Restrictive Covenants**
Craig Hurst, Senior Project Manager
Groundwater & Environmental Services Inc., Ft. Lauderdale

10:30 *Break*

11:00 **ADaPT Panel Discussion**
Panelists: **Andy Tintle**, Technical Project Manager
Advanced Environmental Labs, Tallahassee
Linda Hoffman, Senior Engineer
HSW Engineering, Tampa
Clark Moore
FDEP Bureau of Solid & Hazardous Waste, Tallahassee

12:00 **Luncheon**

1:00 **Regulatory Panel Discussion**
Moderator: **Glenn MacGraw**, PG, Vice President
The FGS Group, Tallahassee

Panelists: **Wilbur Mayorga**, PE, Chief, Pollution Remediation Section
Miami-Dade County Dept. of Env. Resources Mgt., Miami
David Vanlandingham, PE, Engineer IV
Broward County PPRAQD, Ft. Lauderdale
Paul Wierzbicki, PG, Waste Cleanup Supervisor
FDEP, Southeast District, West Palm Beach

2:30 *Break*

3:00 **Performance of Enhanced Anaerobic Dechlorination via Groundwater Recirculation at a South Florida Strip Mall**
Brian Timmins, Director
ETEC LLC, Portland, OR

3:30 **Anatomy of a Pilot Study for Chemical Oxidation Coupled with Biostimulation in a Restricted Access Urban Setting**
Timothy Harman, PE, General Manager
Handex Consulting & Remediation - Southeast LLC, Delray Beach

4:00 **Copper Remediation in CERP Project Areas**
Marc Lefebvre, PE, VP/Principal Engineer and **Barry Westmark**, PE, Principal Engineer Environmental Consulting & Technology Inc.
Fort Lauderdale

4:30 **Sustained-Release Permanganate for Passive In-Situ Remediation of Organic Contamination**
Pamela J. Dugan, PhD, PG, Technical Development Manager
Carus Corp., Peru, IL

5:00 *Adjourn*

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Clean Earth
Earth Tech Drilling
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NIEHS funding boosts bioaccumulation research in Lake Apopka studies

By ROY LAUGHLIN

A substantial new research project to study the bioaccumulation of chlorinated pesticides from Lake Apopka muck sediments is in its early stages. The research, funded by a three-year, $830,000 grant from the National Institute of Environmental Health Sciences, has several components.

The first is to characterize the exchange of chlorinated pesticides between muck sediments pore water and the overlying lake water. The second is to characterize the bioaccumulation of five selected chlorinated pesticides by invertebrates, and then in fish that consume them.

The third component is to examine the genetic background for specific toxicity responses, if they occur, in fish that accumulate the pesticides from water and food.

A research project of this complexity involves collaboration. Nancy Denslow, PhD, professor of physiological sciences at the University of Florida, has been studying the genetic effects of chlorinated contaminants on Lake Apopka organisms for the past decade.

Prior research has shown that Lake Apopka's pesticides in sediments and organisms affect gene expression in fish in a way that at least mimics expression of similar genes in humans with Parkinson's disease.

The current project builds on those discoveries with a line of inquiry to determine if and how significantly pesticides bound to sediments move through food chains and cause genetically related pathology. The toxicity endpoints in this case are patterns of gene expression in response to pollutant exposure.

Another aspect of the study is to optimize and test in the environment a novel sampling device that simultaneously samples sediment interstitial pore water and overlaying water.

Professor Rolf Halden, PhD, PE, co-director at the Center for Health Information & Research and associate director at the Center for Environmental Biotechnology, Arizona State University, is a collaborator in this aspect of the study.

His sampler includes a low flow pump that withdraws interstitial water and a high flow circuit to sample overlaying water. Sampled water passes over a collection-sequestration material that can be optimized for the particular substance of interest. Those can include activated charcoal, specific resins or other substances that can retain an analyte of interest.

The sampler operates in-situ for a few days to several weeks. Analyte accumulation is cumulative. So for analytes present at extremely low concentrations, the sampling interval can be extended to increase the amount sequestered by the sampler.

The sampler shows promise for this project because five compounds with potentially different physico-chemical properties are the subjects of interest.

"One of the unique features of the sampler is that it potentially can span a large range of vastly different target compounds," wrote Halden in an e-mail characterizing his detection device. "When granular activated carbon is used in parallel with ion exchange resins, for example, it is possible to extract extremely hydrophobic and infinitely water-soluble compounds at the same time."

Part of Halden's effort will be to optimize his sampler's performance. Muck is characterized by extremely small particulates that have to be appropriately excluded, and then to collect and analyze the samples for the main stream of the study.

In the latter stages of the multi-year research project, Upal Ghosh, associate professor and graduate program director in the Department of Civil and Environmental Engineering at the University of Maryland, will test the effectiveness of that material in sequestering contaminants in Lake Apopka muck.

The St. Johns River Water Management District's initial program to restore Lake Apopka wetlands met an unexpected setback when the re-flooded sediments released decades of accumulated pesticides. Thousands of birds and other organisms unexpectedly died within a couple of months of the start of reflooding.

The district then turned the muck over in extensive areas to bury surface sediments and reduce contaminant exchange rates with newly established, much less contaminated surface sediments and overlying water.

The current research addresses several still uncertain aspects of contaminant behavior in this long-term remediation effort.

It is hoped that the novel sampler will be capable of consistently and accurately characterizing the bioavailable fraction of contaminants in pore and overlaying water. Finally, the use of gene expression as bioassay endpoints could be among the most sensitive and accurately predictive bioassay protocols to evaluate long-term exposure affects.

Reclaimed water ASR in Florida: The Destin Water Users experience

By Robert Maliva, PhD, PG, Monica Autrey, PE, and Richard Griswold, PE

Many communities in Florida are faced with the challenge of finding an environmentally sound, safe and economical means of both disposing of excess highly treated wastewater during wet periods and securing additional freshwater resources to meet seasonal peaks in irrigation water demand.

Destin Water Users Inc. and Schlumberger Water Services USA Inc. have developed a prototype reclaimed water aquifer storage and recovery system on a barrier island that uses a shallow aquifer as a storage zone.

The ASR system, located on the Gulf Coast in Okaloosa County, allows for optimization of the use of available water resources by storing excess reclaimed water that would otherwise go to waste.

The recovered water is used to augment the reuse system water supply during high demand periods, which reduces demands on high-value fresh groundwater resources.

The DWU ASR system is groundbreaking in several respects. It is the first operational ASR system in northwestern Florida and the first operational system in the state to successfully use a shallow sand aquifer as a storage zone. The storage zone is the main-producing zone of the sand-and-gravel aquifer, which is located from approximately 110 to 160 feet below land surface.

The system is one of only three operational reclaimed water ASR systems in Florida and the only one that uses an aquifer considered to be an Underground Source of Drinking Water as a storage zone.

A USDW aquifer by definition contains less than 10,000 milligrams per liter of total dissolved solids. The storage zone of the DWU ASR system contains freshwater but does not meet potable standards because of elevated iron and sulfide concentrations.

The system is also innovative in its use of institutional controls to protect public health and overcome permitting challenges. A fundamental concern for ASR systems storing reclaimed water is that the water should not enter the potable water supply. Such indirect potable reuse can be avoided by using saline, non-USDW aquifers as storage zones.

The use of deeper saline aquifers as storage zones results in greater construction costs and poorer system performance due to reduced recovery efficiency.

DWU took advantage of an existing city of Destin ordinance that states that shallow wells that draw water from the sand-and-gravel aquifer shall be used for irrigation purposes only. A regulatory framework is thus in place to prevent indirect potable reuse.

The water that is stored in the ASR system is the same water that is widely used in Destin for public access reuse and is used to recharge the aquifer through land application.

The system serves a critical need for DWU in providing a means for putting peak wet weather reclaimed water flows to beneficial use and avoiding the need for new disposal capacity, which would have a much greater cost and potential environmental impacts.

There is limited undeveloped land left on the island and it would be cost prohibitive to purchase property for additional land application. An off-shore outfall to Choctawhatchee Bay would also be very expensive, difficult to permit, would likely encounter strong public opposition and was removed from consideration by the DWU board.

The system consists of seven ASR wells with a total design capacity of 2.125 million gallons per day.

The first ASR well and three associated monitoring wells have been installed and five operational (cycle) tests have been successfully completed. The operational testing results indicate that stored water is remaining close to the ASR well with a low degree of mixing and high recovery of the reclaimed water.

Elevated arsenic concentrations were detected in the recovered water, with a maximum concentration of 49 micrograms per liter. Neither the reclaimed water nor elevated arsenic concentrations were detected in any monitoring wells.

Arsenic concentrations have progressively decreased with each cycle test and are expected to drop in the future below the 10 µg/L drinking water standard.

The remaining ASR wells are currently under construction and the system will be fully operational in early 2012.

The water resources management issues in Destin are by no means unique and reflect problems experienced in many coastal areas in Florida and elsewhere in the world.

Coastal communities often have shallow aquifers containing brackish or otherwise poor-quality water that are not suitable for potable use.

The DWU ASR experience demonstrates how these non-potable aquifers can be utilized as ASR storage zones to better manage available water resources.

Robert Maliva is a principal hydrogeologist with Schlumberger Water Services in Fort Myers. Monica Autrey is the engineering manager and Richard Griswold is the general manager of Destin Water Users Inc.

Coalition calls for ban on oil drilling off coast

By PRAKASH GANDHI

Environmental groups are calling for a ban on near-shore oil drilling off the coast of Florida.

The Florida Coastal and Ocean Coalition, a group of organizations working to conserve, protect and restore Florida's coastal and marine environment, wants the public to have the chance to vote on near-shore oil drilling and to ban the possibility of this practice.

Members of the coalition include the Florida Wildlife Federation, the Natural Resources Defense Council, and other environmental organizations.

The coalition emphasizes the implementation of an ecosystem-based approach to coastal and ocean management. It also recognizes the important link between the health of Florida's economy and the health of our beaches and dunes, coral reefs, wetlands and other natural resources.

The group says that offshore drilling is a dirty business. Proposals to allow offshore drilling in the eastern Gulf of Mexico off the Florida coast pose a serious threat to the intricate collection of sea grasses, wetlands, bays, reefs, beaches and sand dunes and to the marine creatures that depend on those habitats, say the groups.

"Our state relies on clean beaches for our economic and environmental well-being," said the coalition in a statement. "Oil drilling in our state marine waters, which extend approximately three miles into the Atlantic Ocean and ten miles into the Gulf of Mexico, is simply too great a risk to take."

A citizens' petition drive has been launched to place the ban on the Nov. 2012 ballot.

With 8,500 miles of tidally influenced coastline and 825 miles of sandy beaches, much of Florida's economy is dependent on its coastal environment.

Florida law currently prohibits the state from granting leases to drill for oil or natural gas in the state's coastal waters. But proposals are now being made to overturn this statutory ban and allow drilling in state waters.

Florida coastal ecosystems, econo-

DRILLING
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A tale of two industries:

When it comes to numeric nutrient criteria, agriculture and tourism must both win

By DAVID WILLEMS, PE

As the sun gently peaks above the horizon, rays of light hit the harvest and the grove comes to life with light. As the summer day grows long and hot, rolling clouds begin to form in the distance and appear ominous to some, but create relief from the heat for others.

With the extreme heat of the summer, the plants can only thrive with intermittent rains. As the raindrops hit the ground, the soils and the plant roots quickly absorb as much water as they can.

After a short while, the rainwater begins to create nutrient rich puddles filled with food for the plants. The puddles then create small paths in the fields that connect to other puddles, stripping the soil of their food, and eventually that flow will make its way into the streams.

Further downstream, in the Caloosahatchee River and the Gulf of Mexico, the bustle of boat traffic can be seen from afar. Sun bathers line the beaches, bird watchers gather in the coves and fishermen enjoy the peacefulness of the open water.

It should be of no surprise to a Floridian that because of such natural beauty, tourism is the state's largest economic industry, followed closely by agriculture. Bringing in approximately 57 billion dollars per year, tourism is the heart of the state's economy, making agriculture—a 50 billion dollar a year industry—the life blood. And the connections between the two industries are the creek, stream and river arteries.

Just like with arteries, the right balance creates a system that functions efficiently and thrives. However, too much fat in the case of arteries or nutrients in the case of creeks, streams or rivers can create an imbalance that can put in jeopardy its very existence.

This issue is coming to light in the form of the numeric nutrient criteria being proposed by both the U.S. Environmental Protection Agency and Florida Department of Environmental Protection.

While few will argue that something needs to be done to improve water quality throughout the state, there is little consensus as to how it should be done and who should ultimately pay for it.

There are the often competing interests of tourism and agriculture, which in many cases, pit inland communities and large land owners that rely on agriculture against coastal communities that rely on tourism and the protection of our natural environment. And yet these two industries must work together, hand in hand, as one.

All too often water quality and other issues are approached as a win-lose competition. But due to the size of these two industries and their interconnected importance to the viability of our state, this must change. After all, neither industry can survive without the other.

This issue needs to be reframed as an opportunity to reach a win-win outcome with all the hard decisions, sacrifices and financial commitments in tow. Because we cannot continue allowing our water resources to be polluted and we cannot implement regulations that are so burdensome on the regulated community that they put them out of business. We need to do something and it needs to be the right size—no more, no less.

Historically, water quality was only addressed at the point of discharge for an industrial site, for example, a treatment plant, processing facility or confined animal operations or during the permitting of non-point source projects such as residential, roadway and commercial projects.

Water quality issues related to specific water bodies were typically not regulated or addressed unless local public interest pushed for involvement and this was generally conducted in a black-and-white context of winners and losers.

In the past, the state of Florida through the DEP assessed the quality of all water bodies around the state. The process is as follows: Each of the state's water bodies is assessed for compliance with water quality standards set for their intended use. If a water body's water quality does not meet its intended use, that water body is defined as impaired. Each impaired water body is then studied to determine why it is impaired and what needs to be done to reduce or eliminate the impairment.

This process results in the establishment of a total maximum daily load, the total mass per unit time of a pollutant that will still allow the water body to meet its designated use, and a basin management action plan, the prescriptive exercise and diet plan that will restore our water bodies to a desired quality for all uses.

Spurred by recent legal action, federal and state governments are now working on new rules intended to help address water quality in Florida. Through the EPA, the federal government has proposed the numeric nutrient criteria. This rule will establish numeric water quality standards for water bodies throughout the state.

Water body standards are separated into the following broad categories:

- Lakes: Three categories (colored, clear and alkaline, and clear and acidic)
- Streams: Five watershed-based regions (Panhandle West, Panhandle East, West Central, Peninsula, North Central)
- Springs
- South Florida Canals
- Estuaries

The EPA's rule attempts to take into account regional variations by splitting each water body by type or region. However, many argue that Florida's hydrology is much more complex than these categories would suggest and that indicators must be site-specific to accurately reflect water quality needs. Otherwise, this overgeneralization of water body characteristics will ultimately lead to impairment mislabeling and misdirection in cleanup efforts.

Meanwhile, the DEP is working on a similar rule that currently proposes its own form of the numeric nutrient criteria. This rule provides a four-tier hierarchy of water quality standards.

At the top are already established TMDLs, site specific alternative criteria, or SSAC, and water quality-based effluent limitations, or WQBELs. These values are previously calculated numbers based on site-specific science.

The next level is the scientific assessment of cause-and-effect relationships.

The third level is referenced-based thresholds combined with biological data.

The last level is a narrative definition, which provides some flexibility that allows each water body to be regulated based on its specific needs. Regulations can be either based on concentration, mg/L, or total load, kg/yr, depending on water body response. This rule provides more flexibility, allowing a specific number for each water body, preventing an over or under estimate.

While, both EPA and DEP held many public meetings during their rulemaking processes, the tone and scope of these meeting varied greatly. The EPA's public meetings consisted mostly of the EPA explaining their rule and the public expressing their concerns. There was very little if any back and forth discussion to come to a consensus on the rule.

WILLEMS
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Water quality credit trading: An idea whose time has come

By JOHN J. FUMERO and FREDERICK L. ASCHAUER JR.

Water quality, or pollutant, credit trading is a "voluntary, market-based approach to promote the protection and restoration of Florida's rivers, lakes, streams and estuaries." This is the definition from the Florida Department of Environmental Protection taken from its statutorily-mandated 2010 report to the governor and Legislature entitled "The Pilot Water Quality Trading Program for the Lower St. Johns River: A Report to the Governor and Legislature."

The 2008 amendments to the Florida Watershed Restoration Act, Section 403.067, Florida Statutes, provided the legislative authority for the pilot trading program. This legislation also directed DEP to initiate rulemaking to establish a legal and regulatory framework for water quality credit trading.

Among other things, DEP is to establish the process for determining how credits are generated, quantified and validated, as well as a trading registry to track credits. In addition, DEP rulemaking is to address the timing, duration and transferability of credits, and establish the mechanism by which water quality credit trading would be monitored, reported and tracked. The 2010 report includes an appendix with a draft set of proposed water quality credit trading rules.

Simply stated, water quality credit trading can present a market-based approach to protecting and restoring Florida's rivers, lakes, streams and estuaries. Those in the regulated community who are, or will be, addressing water quality issues are searching for options and remedies. Water quality credit trading could offer a pragmatic, cost-effective option in the "toolbox" for addressing the multitude of water quality regulatory issues and initiatives in the state of Florida. Water quality credits could help the regulated community, including local governments, achieve their water quality goals at a reduced cost or in some instances where options are limited by one reason or another.

Importantly, the 2010 report recognized that water quality trading can accelerate cleanup because potentially unaffordable costs for individual dischargers can be reduced and cooperative relationships built through trading agreements that foster shared responsibility and commitment.

Trading can also accommodate new growth, including new pollutant loadings from urban stormwater and domestic and industrial wastewater discharges. It offers the possibility for the owners of potential new or increased discharges to purchase credits—quantifiable pollutant reductions—from existing dischargers, so that overall pollutant loadings to a watershed are not increased and water quality is preserved.

One of the lessons learned from wetland mitigation banking is that there are, at times, benefits to be gained by addressing resource issues on a regional—rather than project specific—scale. These same opportunities may exist with the creation of something akin to regional water quality banks.

Considering the multiple basin management action plans, total maximum daily loads, numeric nutrient criteria and other federal and state agency initiatives, now is the time to develop these tools for achieving water quality regulatory standards and goals.

Indeed, with BMAPs establishing the stakeholders' action plan for achieving water quality goals in a given basin, and TMDLs establishing the total loading in any given water body, water quality credit trading opportunities can serve quite well within the existing regulatory and planning framework in the state of Florida.

Unfortunately, in Florida, the only place where regulated entities seeking to achieve water quality goals can trade water quality credits is in the St. Johns River Basin. The St. Johns' River Basin Pilot Program was authorized by the state Legislature in 2008 when they amended Section 403.067, FS, and has been codified as rule 62-306, Florida Administrative Code. A few trades have transpired thus far in the pilot program. Two such water quality credit trades were between the Clay County Utility Authority and Clay County. Both of these trades, as well as the other trades, are discussed in the 2010 report.

Importantly, in its 2010 report, DEP concludes that "other areas of the state would likely benefit from trading." DEP was, however, concerned that there was significant uncertainty about the nutrient limits that facilities ultimately would have to meet. This uncertainty was brought about by the U.S. Environmental Protection Agency's promulgation of a rule proposing numeric nutrient criteria.

Due to the preliminary nature of the EPA's numeric nutrient criteria at the time, DEP proposed extending the St. John's River Basin Pilot Program for an additional two years. Now, however, there are many reasons and certainty to extend water quality credit trading in other areas of the state.

Simply stated, water quality credit trading presents a market-based approach to protecting and restoring Florida's rivers, lakes, streams and estuaries. Those in the regulated community who are, or will be, addressing water quality issues are searching for options and remedies.

Water quality credit trading could offer a pragmatic, cost-effective option for addressing the multitude of water quality regulatory issues and initiatives and could help the regulated community achieve water quality goals at a reduced cost.

As it often does, the market will assess the need, value and risks associated with water quality credit trading, especially while the numeric nutrient criteria rules and other water quality initiatives are being finalized. By creating a legal and regulatory framework for trading, credit generators/sellers and purchasers may likely be able to structure deals to account for this uncertainty to the greatest extent possible. The onslaught of state and federal agency initiatives should dictate the need to extend water quality credit trading to other basins/markets throughout the state.

At the time of writing this column, HB 1107 is pending in the Legislature. This bill proposes to extend the St. Johns pilot program to the Caloosahatchee, St. Lucie and Lake Okeechobee basins. State Representative Trudi Williams, the bill's House sponsor, should be commended for pushing this issue, as opening up basins to water quality credit trading can help lead us to our collective goals of protecting and restoring Florida's rivers, lakes, streams and estuaries through the cost-effective mechanism of trading.

John Fumero and Frederick Aschauer are with the law firm Sundstrom, Friedman & Fumero LLP and practice exclusively in the areas of federal and state environmental and water law throughout the state of Florida. They can be reach at jfumero@sfflaw.com, (561) 982-7114, and faschauer@sfflaw.com, (850) 877-6555.

Environmental regulatory reform: Can it really happen in Florida?

By JERRY WOOD, PE

Besieged by a multi-level system of environmental regulatory codes (often duplicative, conflicting or antiquated), state-level administrators motivated by directives from Gov. Rick Scott are scrambling to develop plans for consistent state-wide implementation, including the reduction of redundancy and conflict among the various state rules and procedures.

To say the least, the regulatory reform intentions of the governor and the leadership of Florida's House of Representatives and Senate are challenging. To complete the task in a timely and effective manner, drastic and immediate regulatory reform is required not only at the state level, but also the county and municipal levels.

Recent economic downturns have initiated what should have been done a long time ago. The current state of oppressive duplication—and in some cases ignorant—environmental regulations is a case of morbid obesity. The impact of this obese system still rivals, and too often exceeds, the environmental harm that we seek to avoid or reverse.

Diet and a few small sacrifices of state and local practices are not even close to sufficient. While government "lifestyle" changes are essential now, the existing morass is irreversible without radical, top-to-bottom legislative re-construction surgery for environmental regulation.

Reform of local government codes will not automatically follow changes in state agency law or behavior. Florida local government environmental regulations, FLGERs, have been created and organized around cultures of parochial interests. They are largely derived from state law, but absent of state-level "due process" provisions.

Unfortunately, it is in FLGERs that the greatest abuses and manipulation of codes occur and it is in the implementation of FLGERs where due process and administrative procedures are most abused. FLGERs are enacted with virtual impunity and without the need to justify the stricter or duplicative requirements.

FLGERs create a separate regulatory structure and envelope from state law. Since local governments are closely allied with local business and land-use interests that are difficult to observe or review, FLGERs are often created or used only to further a municipal agenda. Local leaders will strongly resist simplifying their manipulative codes and practices.

FLGERs are often broadly based on the concept that a more restrictive policy is a better policy that is constitutionally allowed for these local codes. This principle is rarely tested in court and often the most vocal or influential interests create policy that should instead be based upon evidence and science.

The myriad delegations and ever changing agreements and alliances from the top to the bottom of the regulatory scheme effectively preclude simple reform of regulatory code. Currently, a tag-team approach to regulation is underway on a state-wide basis, drastically complicating rational review and legitimate permitting. It also results in dramatically increased costs and delays that are often fatal for a business enterprise.

Environmental activist groups play an important role in the process of oversight and review of the regulatory system.

But these groups also pose problematic hurdles due to a strategy of embracing and using any advantage posed by a dysfunctional system to achieve their specific agenda. More local codes, greater ambiguity and conflict are the faithful allies in the modern practice of environmental advocacy.

In Florida, several counties, including Broward and Miami-Dade, have effectively seceded from state authority for most environmental regulatory control. Numerous other large counties and cities have developed a "so sue me" attitude, including Hillsborough and Orange counties. Many of these local governments have passed a proliferation of FLGERs.

Another glaring problem is that local codes are not regulated by the Administrative Procedures Act, a state law protecting due process. Open regulation processes and the opportunity to challenge proposed or existing codes by regulated parties is essential to the maintenance of rational and effective codes.

In the case of local government, streamlining tends to consist of endless meetings and discussions of different ways of doing the same thing by the same personnel who got us where we are today. Recent local government streamlining efforts seem to be about finding ways to maintain the power status quo and regulatory girth under the guise of change.

Inevitably, workshop and task force efforts slow to a crawl. Most often there is only a great deal of talking nice and demonstrations through recommendations to avoid the appearance of stagnation. But ultimately, little is changed.

Environmental regulatory streamlining needs a radical intervention. The current system of governmental regulatory agencies and rules is inextricably intertwined.

The complexity of this problem requires a severe and comprehensive solution. Without decisive and mandated changes, effective environmental regulatory reform will not occur.

What should be done? Recognize that the initial force of comprehensive state law is needed now.

The requirements must be decisive with the state setting the example. Disincentives should be included for failure of local governments.

And finally, we need to create a state-wide ombudsman office to track and report the efficacy of streamlining efforts.

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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.

Calendar

March

MAR. 1—Course: Lead: Renovation, Repair & Painting, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5—Course: 8-Hour OSHA HazWoper Annual, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5—Course: Refresher Training Course for Experienced Solid Waste Operators-4 Hours, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5—Course: Refresher Training Course for Experienced Solid Waste Operators-8 Hours, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5-6—Course: Refresher Training Course for Experienced Solid Waste Operators-16 Hours, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5-7—Course: Water Class B Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5-8—Course: Water Class A Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

MAR. 6—Course: Hazardous Waste Regulations for Generators, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6—Course: Asbestos Refresher: Inspector, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6—Course: Asbestos Refresher: Management Planner, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

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MAR. 6-7—Course: Pumping Systems Operation and Maintenance, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7—Course: Asbestos Refresher: Contractor/Supervisor, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7—Course: U.S. DOT Hazardous Materials/Waste Transportation, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7—Course: 4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7—Course: 8-Hour Training Course for Spotters at Landfills, C&D Sites and Transfer Stations, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7-8—Conference: 22nd Annual Cross-Connection Control Conference, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 9—Conference: American Water Resources Association, Florida Section Conference: Restoring and Protecting Florida's Native Habitat and Species, Jupiter Beach, FL. Contact Kristin Bennett at (772) 781-3413 or visit www.awraflorida.com.

MAR. 11-15—Conference: Pittcon Conference and Expo 2012, Orlando, FL. Presented by The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy. Visit www.pittcon.com.

MAR. 12-16—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.

MAR. 12-16—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.

MAR. 13-15—Course: Respiratory Protection, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 16-24—Course: Backflow Prevention Assembly Tester Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

Environmental Industry Summit X

The 10th annual Environmental Industry Summit is set for March 14-16, 2012, at the Hotel Del Coronado near San Diego, CA.

The annual event is presented by Environmental Business International Inc., publisher of the Environmental Business Journal.

The conference features a political update and 2012 election forecast, industry roundtable discussions, and sessions on economic and market outlook, shale gas and renewable energy, and more.

Visit www.ebiresearch.com for agenda updates and more information.

MAR. 19-21—Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification or, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 19-22—Symposium: SWANA's 35th Annual Landfill Gas Symposium, Orlando, FL. Presented by the Solid Waste Association of North America, Call 1-800-467-9262 or visit swana.org.

MAR. 19-23—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.

MAR. 20-23—Course: Wastewater Class C Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 22—Course: Introduction to Commissioning, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 25-28—Conference: 26th Annual Residuals and Biosolids 2012, Raleigh, NC. Presented by the Water Environment Federation. Call 1-800-666-0206 or visit www.wef.org.

MAR. 27-28—Course: LEED-AP BD&C Overview & Exam Preparation, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 29—Meeting: South Florida Aquatic Plant Management Society General Meeting, Margate, FL. For more information, visit www.sfapms.org.

MAR. 29—Course: Lead: Renovation, Repair & Painting, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 29-April 7—Course: Backflow Prevention Assembly Tester Training and Certification, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

April

APR. 1—Course: Backflow Prevention Recertification Exam, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

APR. 2-6—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.

APR. 2-6—Course: Asbestos: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570. or visit www.treeo.ufl.edu.

APR. 3-5—Course: Activated Sludge Process Control & Troubleshooting, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

APR. 5—Course: Unidirectional Flushing Techniques, Tallahassee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

APR. 5-6—Conference: 2012 Geotechnical and Materials Engineers Council Conference, Lake Buena Vista, FL. Presented by the Florida Engineering Society. Call (850) 224-7121 or visit www.fleng.org.

APR. 10—Course: Introduction to DEP SOPs for Surface Water, Groundwater, Wastewater, Drinking Water & Ultra-Trace Metals Sampling, & Calibration & Verification of Field-Testing Meters, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

APR. 10-12—Course: Water Distribution Systems Operator Level 1 Training Course, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

APR. 13-14—Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

APR. 14—Course: Backflow Prevention Recertification Review, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

Judge rules against activists on development in Brevard, Volusia counties

By PRAKASH GANDHI

Environmental activists have suffered a major setback in their fight against a massive new development proposed for Volusia and Brevard counties.

A state administrative hearing judge ruled against a coalition of environmental advocates on whether the Miami Corp.'s proposed Farmton development should be allowed to move forward.

Judge David Maloney ruled that the proposed Farmton development is not urban sprawl.

Farmton is a proposed city with 23,000 homes in Volusia and Brevard counties. It covers 59,000 acres west of Interstate 95 in northern Brevard and south central Volusia counties. In addition to the homes, plans call for more than four million square feet of commercial space to be built over the next 50 years.

Activists blasted the project because they said it will bring intensive development to environmentally sensitive wetlands and Florida black bear habitat in an area well away from any existing cities.

The land currently has no utilities, roads or other infrastructure in place.

Judge Maloney's recommended order threw out legal challenges brought by Volusia environmentalist Barbara Herrin, the Sierra Club, and an Edgewater activist group.

The judge's order must obtain final approval from the new Florida Department of Economic Opportunity.

But already, the ruling has triggered strong reactions from representatives of environmental groups.

"It's clear that there is no longer any state oversight of development," said Henry Lee Morgenstern, an attorney for the Edgewater Citizens Alliance for Responsible Development.

"It's obvious that any local government can do anything it wants. Period. It's open season on development of any kind with no regard to infrastructure capacity or natural resources. "

Despite objections by environmental activists, Volusia and Brevard officials approved the development. State planners, under Gov. Rick Scott, also approved the plans.

Volusia County voted in 2010 and again in March 2011 to give the company long-term rights to build 23,000 homes and 4.1 million square feet of commercial space.

The plan allows development on 19,000 acres but requires the remaining 40,000 acres to be set aside for conservation. More than 75 percent of the land will be permanently conserved with development concentrated in several clusters.

The environmental groups argued that the plan represents the very essence of urban sprawl.

But Judge Maloney decided that Farmton does not meet the new definition of sprawl because the law allows such growth if a plan also show ways that its impact is being limited.

The new law lists eight factors that limit urban sprawl. If the plan includes at least four of these factors, then the proposed development is not considered urban sprawl.

Maloney ruled that Farmton met seven of the eight anti-sprawl factors. For example, one of them is whether the project adequately protects natural resources and environmentally sensitive areas.

Judge Mahoney wrote that the advocates did not "prove beyond fair debate" that the site is "not suitable for the intensity, density and configuration of development."

The development plan will preserve most of the site's natural areas including its most environmentally sensitive areas, the judge noted.

Kelli Mcgee, director of growth and resource management at Volusia County, said Farmton will benefit the county's residents because the local plan ensures a high quality, sustainable development pattern that is properly timed and supported by infrastructure that will be paid for by the developer.

She said the plan protects more than 75 percent of the total 47,000 acres in Volusia County by conservation easement with numerous implementation strategies and preservation standards including public access in some areas and protection of wildlife corridors.

But people like Morgenstern are far from convinced.

"This ruling sends a message to local governments and developers that you can do anything you want," he said.

"The company behind this development has no rules, no criteria and no protection plan that will guarantee protection of anything. This development is exactly the kind of thing that growth management is meant to prevent."

He said the developers are converting a mostly rural area in the middle of nowhere into fragmented cities.

"This plan takes no consideration of traffic, water or natural resources," he said. "It's crazy. It violates every rule of planning in the book."

P2 Roundtable announces 2012 awards

Staff report

The Florida Pollution Prevention Roundtable is now accepting applications for their 2012 statewide Pollution Prevention Award.

The annual award recognizes public- and private-sector organizations that have demonstrated leadership and initiative in reducing pollution at the source and greening their operations

Awards are given for both small and large organizations. Past winners demonstrated substantial reductions in energy and water use as well as waste reduction.

The award application is available at www.flppr.net. The application period ends June 1, 2012.

Membership in the roundtable is open to any Florida resident with an interest in promoting pollution prevention and includes representatives from environmental agencies, private industry, academic institutions and citizen groups with a mission or interest in promoting pollution prevention activities in their organizations or communities.

Awards will be presented Sept. 21, 2012, at the 2012 Pollution Prevention Conference in Melbourne.

Plans for Lake Apopka restoration do not include letting hydrilla run rampant

By MELORA GRATTAN

Contrary to rumors and reports, state officials are not considering introducing more hydrilla on Lake Apopka or letting it grow unchecked in order to speed up restoration.

"There is already hydrilla on the lake that has been managed for about the last 10 years," said Nathalie Visscher, an invasive plant management biologist for the Florida Fish and Wildlife Conservation Commission. "We would never introduce it."

Nor do plans call for significantly changing the way the agency manages the nonnative invasive plant, which has been controlled through the use of herbicides.

Visscher said the concept of using hydrilla to accelerate restoration was proposed by an outside source at a public meeting and later attributed to the FWC.

The agency addressed this misconception at a meeting in January held to gather public input for the 2012-13 aquatic plant management plan for the lake.

"The overwhelming support was for continuing how we have been managing the lake in terms of hydrilla and other areas," Visscher said. "Letting it go would definitely increase the cost and we are trying to keep it at low levels."

Letting hydrilla spread probably would speed up restoration, but it would also ratchet up the cost to control it from around $15-20,000 to $3-5 million annually, said Bill Haller, director of the University of Florida's Center for Aquatic and Invasive Plants.

"Once you get around 10,000 to 20,000 acres of it, it grows exponentially and it might explode and take over like it has in so many Florida lakes. As a result, there could be massive fish kills, especially in summer months with the algae, heat and cloudy days without a lot of oxygen."

There wasn't much known about hydrilla when it was first introduced into Florida lakes, Haller said. Due to the shallowness of most lakes and the fact that the majority of native plants require four to eight times more light, hydrilla was able to proliferate, covering 80 to 90 percent of many lakes.

The plant has been kept in the lag phase on the lake, which is less expensive and easier to maintain.

Lake Apopka is especially shallow and needs to be aerated in the summer months, so letting the hydrilla grow could create a mess, Haller said. He believes maintaining the status quo with the plant is the best course of action.

"Hopefully the natives will expand over time," he said. "Keeping hydrilla under control has been successful and once you turn the corner, you will never get back to that lag phase of growth. Let's see what happens."

The public comment period on the management plan closed Feb. 24. A plan should be finalized by the end of May. In addition to hydrilla, the plan addresses controlling other species such as water hyacinths, water lilies and cattails, as well as other elements, Visscher said.

The St. Johns River Water Management District has planted about six wetland species to serve as barriers and habitats, which the district says are becoming less necessary as water quality and clarity improve and native plants are increasing. This includes about 50 acres of eel grass around the lake, Visscher said.

Lake Apopka's decline has been attributed to factors such as the loss of wetland areas and discharges from wastewater facilities, citrus plants and poor agricultural practices.

In addition to replanting, the district has purchased farmland to restore to wetland areas, operated a marsh flow-way that removes phosphorus, and improved water clarity by removing gizzard shad to reduce algae and phosphorus.

New EPA tool provides on-line access to greenhouse gas emission data

By DAN MILLOTT

A new web tool is now available from the U.S. Environmental Protection Agency that provides access to sources of greenhouse gas emissions in every state in the country.

Not surprisingly, the major source of greenhouse gas emissions in the Sunshine State and elsewhere is electric power plants.

While power plants are by far the major source of greenhouse gas emissions in Florida, in other parts of the country refineries, chemical plants and other industrial operations were heavy contributors.

Gina McCarthy, assistant administrator of the EPA's Office of Air and Radiation, said the database used in the tool is not intended as a regulatory device, but is informational in nature and could assist in decision making.

For each state, there is a numerical breakdown on the number of sources in each category—power plants, refineries, landfills, chemical plants and so on.

In Florida, there are 172 listed sources of greenhouse gas emissions throughout the state. In 2010, the largest emitter was the Crystal River Power Plant operated by Progress Energy. It emitted 12,164,388 metric tons of pollution

The largest industrial operation listed on the site with a contribution of greenhouse gas emissions was Ascend Performance Materials in Cantonment with a 5,603,236 MT reading.

The data collected came from 6,700 facilities in nine major industries. Since it only covers major emitters, it does not cover the total volume of emissions nationwide.

The database shows that carbon dioxide emissions produce 95 percent of the greenhouse gases followed by methane at four percent and other gases, one percent.

In Florida, by area, the largest sources of greenhouse gases are as follows: Miami: FP&L Turkey Point Power Plant - 3,017,273 MT; Jacksonville: JEA St. Johns River Power Plant - 9,135,938 MT; Tampa: TECO's Big Bend Power Plant, Apollo Beach - 9,996,946 MT; Orlando: OUC's Curtis Stanton Energy Center Power Plant - 5,66,8574 MT; Bartow: Florida Progress' Hines Energy Complex - 4,916,774 MT; and Palatka: Seminole Cooperative's Power Plant - 8,563,814 MT.

Besides the Ascend Performance Materials plant, the only other major industrial emitter was the Mosaic Fertilizer Plant in Hillsborough County with 1,982,409 MT release.

The site is available at http://www.epa.gov/climatechange/emissions/ghgdata/index.html.

Scientists say cutting black carbon, ozone best way to cut global warming

By DAN MILLOTT

Twenty-three international scientists have concluded that a worldwide effort to reduce sources of black carbon and tropospheric ozone is a route that will save lives and is the best option for reducing global warming.

In a nutshell, the team said to concentrate on soot and methane reduction, not so much on carbon dioxide.

The scientists produced a detailed report in January. Dr. Drew Shindell, a climate scientist with NASA's Goddard Institute for Space Studies, was the lead author.

While scientists agree that carbon dioxide from fossil fuels like coal and oil is the major culprit in global warming, the team concluded that curtailing soot and methane is a quicker route to curb the global warming trend.

Soot entering the atmosphere is an ongoing problem. Reducing it could save between 700,000 and 4.7 million lives per year. Soot also alters weather patterns creating drought conditions in parts of Europe and Africa and monsoons in Asia.

The scientists pinpointed 14 methods for attacking methane and soot. They used computer models of 400 different existing pollution control measures to create their map to success.

The 14 methods included techniques such as capturing methane from coal mines and landfills, cleaning coke stoves and diesel engines, and altering farming methods in rice paddies and manure collection. The scientists acknowledged that in some parts of the world, these practices are already being utilized.

The scientists estimated that without global action, the average temperature

WARMING
Continued on Page 16

Cost estimates for proposed South Florida reservoir increase dramatically

By DAN MILLOTT

Palm Beach County has experienced its share of issues with reservoirs in recent years. So it's not surprising that county officials are leery of a proposed project in Loxahatchee, especially now that cost estimates have ballooned to $1 billion.

The proposed reservoir would supplement existing drinking water supplies for several systems in Broward, Palm Beach and perhaps Miami-Dade counties.

Karen Marcus, chairman of the Palm Beach County Commission, has long been a skeptic of reservoir projects. "I'm getting a lot of pushback from the utilities," she said. "I want more information for our board before making a decision."

She cited a previous reservoir project just east of the proposed site that was started but never completed.

Another Palm Beach reservoir idea that didn't fly was a plan to pipe water from Lake Okeechobee to a proposed reservoir. The estimated cost was initially $350 million and could have increased to $800 million. But the county nixed it before it got off the ground.

Dean Powell, director of the Watershed Management Department at the South Florida Water Management District, and district staff provided technical support to the entities exploring the reservoir idea. A white paper was presented in January detailing the project's feasibility, design and cost estimates.

Jennifer Jurado, director of Broward County's Natural Resources Planning and Management Division, said SFWMD created models showing how much water could be captured.

She pointed out that early cost estimates were based on a reservoir covering 45,000 acre feet, but the later version envisioned a much larger reservoir of 76,000 acre feet.

Early projections estimated that the reservoir could capture 120 million gallons per day, but Jurado said SFWMD crunched those numbers again upped their estimate saying they could recover 185 million gallons per day, which required increasing the size of the reservoir.

She questioned the $1 billion cost estimate. She said officials at Palm Beach Aggregate, the firm on whose land the reservoir would be built, said the cost would be closer to $750 million for several reasons. Since the reservoir was proposed on Palm Beach Aggregate land, the property would not have to be purchased.

Plus, revenue generated from the material removed in mining operations during reservoir construction would be credited back, reducing costs.

Exactly who will pay for the reservoir project has not yet been determined, but Jurado said that there are several options. One option is bonding, another private financing or an "alternative government arrangement" that could include state or federal grants or funding.

Municipalities showing interesting in the project include Fort Lauderdale, Plantation, Pompano Beach, Dania Beach, Boynton Beach and Margate. Representatives from those jurisdictions attended the January meeting.

The time frame for building the reservoir remains unclear. But once started, it could be completed within seven years.

BLOOM

From Page 1

of magnitude higher than normal and persisted much longer than usual—clearly an extreme situation appearing to become a new normal.

The microalgae primarily responsible for the bloom is confounding experts as well. It is Resultor species., a chlorophyte in the group Pedinophyceae.

Resultor cell densities were as high as 800 million cells per liter. Resultor species have been identified in phytoplankton samples from Europe and Japan.

Its history of occurrence in the Indian River Lagoon is less certain, but it has never in the past been responsible for a bloom or found at such high densities as occurred in 2011. Lagoon water had a persistent pea green tint for months.

According to Steward, the cause of the Resultor bloom is a topic of continuing investigation. Co-occurring conditions are the focus of inquiry that may lead to a better understanding of what led to the bloom.

The prolonged cold winters of 2010 and 2011 may have played a role. Steward said that in the northern part of the Indian River Lagoon, for the first time, water temperatures as low as 4°C were measured during the coldest intervals. Both winters were notable for their duration.

A biological event in 2011, the crash of the drift algae community in the Banana River, is a second co-occurrence that Steward suggested is a favored explanation as proximate cause of the Resultor bloom. He prefaced this scenario by noting that "we haven't found any smoking gun on the land (along the Banana River). We are looking closely at internal loading from drift algae. The nutrients from drift algae have to go somewhere. They may have been taken up by phytoplankton."

Drift algae refers to unattached masses of filamentous macroalgae whose biomass reaches a seasonal maximum at the end of winter. Steward described them as nutrient sponges whose nutrient uptake supports their growth and concomitantly ties up a substantial fraction of plant nutrients in the lagoon.

The algae and seagrass beds are the reason that median chlorophyll-a concentrations in the water are usually so low—too low to support persistent microalgae blooms.

The April 2011 drift algae population crash corresponds with the beginning of the microalgae bloom in the Banana River. The current working hypothesis is that nutrients released by the decaying drift algae spawned the initial Resultor bloom. That bloom spread through the Indian River's northern segment by the end of summer. For the rest of 2011, the bloom persisted, often at high intensity.

The drift algae communities have not recovered and shading of the grass beds by the dense microalgae bloom caused significant reductions of sea grass bed biomass. This year, macrophyte densities of both of the other plant communities declined and as of this spring were not recovering.

Steward said that other unusual conditions in the river may also have played a role in the microalgae bloom. It occurred during an interval of extreme drought. Salinity in the Indian River was much higher than normal, and in some places reached 50 parts per thousand. Salinity levels in the Indian River are typically 30 parts per thousand. Dilution by rainfall to lower salinity is much more prevalent than hypersalinity due to evaporation.

The staff at the water management district is working closely with an ad hoc group of academic scientists in hopes of formulating an accurate characterization of the cause of this unusual bloom.

Steward noted that there is no funding for a special investigation and that the scientists are working without pay. He is hopeful that a technical paper may be completed by late fall, 2012, to provide a more complete and technically sufficient explanation of the bloom.

National Research Council releases wastewater reuse report

By ROY LAUGHLIN

A recently released report from the National Academy of Science's National Research Council, "Water Reuse: Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater," states that of the 32 billion gallons of municipal wastewater produced daily in the U.S., 12 billion are discharged to an ocean or estuary, essentially wasting it.

Reuse of just those 12 billion gallons would increase water supply by six percent of our total water use or 27 percent of the public drinking water supply.

Some of the reports' discussions are familiar: Population growth is the ultimate driver of the nation's water use. Agricultural demand, climate change and industrial demand by high water use sectors have made dramatically greater demands on water supplies, of which potable water use is one of the smaller demand components. Water reuse is no longer optional—it's now considered as a low cost alternative to increasing water supply.

But those who believe that reuse water is a vast and currently invisible river of cheap new water will be disappointed.

The costs of reuse facilities are often greater than costs for obtaining water from other sources. Reuse water costs are substantially lower than seawater desalination costs—bad news for Florida cities that have tried to peg their growth prospects on seawater desalination.

The report notes that utilities often cannot recoup the cost of reuse facilities because the public perceives the water as inferior due to its origins and use.

The report leaves little doubt that the technology exists in several price tiers to treat wastewater for some level of reuse. The robustness of the engineering analysis comes directly from more than a century of experience, not all of it based only on engineering.

The report includes insights that may surprise some readers. Risk assessment techniques for reuse water are not well developed, but need to be in order to adequately assure public health with safe drinking water from reuse sources. Recent EPA-suggested guidelines are derived from the review and evaluation of existing state regulations and guidelines, and are not based on a rigorous risk assessment methodology, according to the report.

The report noted that agricultural irrigation water used on lettuce grown in several states may have significantly different levels of contamination, but could be sold as the same anywhere in the U.S. without any difference in informing the public of substantially different risks from pathogens or contamination

Reliance on federal water reuse standards—if they were promulgated—would require the U.S. Environmental Protection Agency and other agencies to update some of their rules.

Advocates of wastewater reuse can make only so much headway by lauding technological prowess that would make wastewater reuse more palatable.

The report includes a discussion of "contagion from contamination" that is central to an academic explanation of the overwhelming public aversion to using wastewater as a potable water source.

In indirect terms, the report illustrates how public perception can be easily manipulated. The Orange County (CA) Water District began injecting reclaimed water into a potable water aquifer, ostensibly to form a barrier against saltwater intrusion to protect an adjacent drinking water well field.

Subsequent investigation showed that the injected water flowed directly into the well field, so that most of the water obtained from the well field was derived from the injection wells. The success of that system led the district to develop a new groundwater replacement system, which expanded water reuse from 16 million gallons per day to 70 million gallons per day during the interval from 1976 to 2008. By describing this aquifer injection as a salinity barrier, the reuse project went entirely below the public's perception of contamination and contagion.

The acknowledgments list 47 water resource professionals who assisted in preparing the report. Seven of those listed represented agencies or wastewater treatment facilities in Florida.

SUPERFUND

From Page 1

By selecting homes near and far from the site, Bird said they will get a good read on the variance of dust conditions.

"We probably have enough responses from property owners now to go ahead, but we want the largest pool possible to draw from," he said.

The EPA will do the tests and analyze their findings at their lab in Edison, NJ. According to Bird, Beezer will reimburse the agency for the costs of the analyses.

"There is no standard for indoor dust," he said. "The challenge is to find out if levels are higher in houses near the Superfund site. If they are, the next step would be consultation with the Centers for Disease Control and Prevention, and the Florida Department of Health to ascertain what it means."

WILLEMS

From Page 9

In contrast, the DEP's public meetings were very interactive. The DEP began each meeting by explaining the rule and any changes that had occurred. They then took public input from all interested parties including agricultural and tourism interests and addressed comments or concerns on the spot. In some cases, this public input resulted in actual changes to the rule.

The DEP is trying to get this rule completed and implemented prior to the EPA's rule being implemented in March, 2012. It is understood that if the DEP creates a rule that EPA can support, the federal government will not implement their one-size-fits-all rule. And it is vitally important for the state of Florida that DEP is able to accomplish this task.

A more tailored plan for each specific water body will ensure both tourism and agriculture are able to win and hopefully flourish in the years to come. With help from DEP, local stakeholders will ultimately decide how water quality will be improved. One area might want to better control septic tank discharges while another might think stormwater treatment wetlands make more sense. The DEP ultimately allows the local community to choose, creating more buy-in and community support.

As a result, the tourism industry will see improved water quality over time and the agriculture industry will help improve water quality while continuing to remain economically competitive.

And we will see that cooperation between the industries can create a healthier system, one in which better environmental and economic results are a byproduct and the special interests and nutrient-clogged water bodies of the current system will be washed away.

David Willems, PE, is a water resource engineer in the Fort Myers office of HSA Engineers & Scientist. He can be reached at dwillems@hsa-env.com.

NOTES

From Page 3

ing service as general counsel and assistant secretary for the Florida Department of Community Affairs from 1999 to 2003. Her appointment is subject to confirmation by the Florida Senate.

FECC Inc. hired Todd Hodgson as director of business development. Hodgson has over twenty years of experience in the environmental contracting industry. His responsibilities will include all aspects of business development and customer relations for FECC in Orlando.

WARMING

From Page 13

would rise by 2.2 degrees over the next 40 years. Implementation of efforts to control emissions from soot and methane would slow the growth of global warming down to 1.3 degrees. An added benefit would be an increase in the annual yield of key crops by 150 million tons.

Methane reaches the atmosphere from landfills, farms, drilling for natural gas and coal mining. Soot, called black carbon in the scientific community, is a by-product of heating with wood burning stoves and coal in developing countries, and the burning of some diesel fuels worldwide.

Carbon dioxide is still the kingpin of pollution and climate change. Shindell affirms that attacking that area remains a priority. He said it's a matter of numbers—there is more carbon dioxide pollution in the world than methane or soot.

A 2007 study from Stanford University determined that carbon dioxide accounted for 48 percent of the man-made global warming in the world; soot was second at 16 percent and methane third at 14 percent.

The new study was widely praised after its release. University of Minnesota Ecology Professor Jonathon Foley said it was "brilliant" because it didn't focus solely on carbon dioxide emissions. He noted that the study focused on win-win-win pathways benefiting human health, agriculture and stabilizing the world's climate.

John D. Graham, a former official in the George W. Bush administration and now dean of public and environmental affairs at Indiana University, said the study deserves serious consideration by policy makers as well as scientists.

Another outside climate expert, Andrew Weaver of Canada's Victoria University, said the study is good news in a sea of gloomy reports about climate change.

Shindell and his colleagues said implementation of reduction measures for black carbon and methane would prevent 14,000 air pollution deaths of people over 30 by 2030 and that 0.8 degree Fahrenheit of projected warming in the U.S. would be prevented by 2050.

The worldwide team of scientists noted that health benefits would be far greater in China and India where soot is a greater problem.

While the new study was generally received in a favorable light, some climate change experts expressed concern about people taking their eye off the carbon dioxide ball, which could exacerbate climate change.

DRILLING

From Page 8

mies and military training areas would all be threatened by expanded offshore drilling along Florida's coast, said the coalition.

Sarah Chasis, senior attorney and director of the Natural Resources Defense Council, strongly called for a halt to drilling.

"The state should continue the current ban on drilling in state waters," she said. "Clean beaches, clean water, abundant fish and wildlife are essential. A ban on drilling protects both the economy and environment of Florida."

Offshore drilling poses serious risks from oil spills to beaches, coastlines and fisheries, said the coalition, which believes oil spills are an inevitable result of offshore drilling.

"The risk of routine pollution or a catastrophic spill is too great to justify any new exploration, leasing or drilling in the eastern Gulf of Mexico or along Florida's east coast," said the coalition.

In addition to oil spills, oil and gas drilling also produces massive amounts of waste muds and cuttings—the material that is dug up and removed while drilling and the substance used to lubricate drill bits and maintain pressure while drilling.

Each well can generate tens of thousands of gallons of the muds and cuttings, enough waste to fill several backyard swimming pools. This waste can contain toxic metals, including mercury, lead and cadmium.

Drilling rigs also release hundreds of thousands of gallons of polluted water daily, and it can contain benzene, arsenic, lead and zinc.

Most of Florida's residents live along the coast, so if a spill were to occur, large numbers of people would be affected where they live, work or go to school.

Of the state's 20 major population centers, 15 are located in coastal counties surrounding a bay, estuary or river mouth.

Florida Specifier

Environmental & Geotechnical Drillers Directory

If your firm provides environmental/geotechnical drilling or direct push services, you're invited to complete the form below, providing details about your firm and its capabilities. The directory will appear in our May 2012 issue. **There is a fee of $100 to list your firm.** *(The fee is waived for current* Florida Specifier *display and business card advertisers.)*

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

The deadline for submitting listings is Wednesday, Apr. 11, 2012. ACT NOW.

Company name: _____

Primary Florida address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

E-Mail: _____ Web: _____

Additional FL locations: _____

Contact person: _____ Title: _____

EMR rate: _____ Speciality business designations: _____

Services/capabilities: _____

_____

_____

_____

Areas served: ❒ South FL ❒ Central FL ❒ Northeast FL ❒ Northwest FL

Equipment/tools: ❒ Hollow stem auger ❒ Air/mud rotary ❒ Dual rotary
❒ Sonic ❒ Direct push ❒ Diamond coring
❒ Cone penetration testing ❒ Other: _____
_____

Other services: _____

_____

_____

Number of years in business: _____ years Total staff number: _____ In Florida: ____
Operators: ____ Technicians: ____

What's your firm's speciality? _____

_____

_____

Are you a current *Specifier* advertiser? ____ Yes ____ No (fee required)

Contact us about: ____ Advertising in the *Specifier*
____ Submitting a column to the *Specifier*

Index to Display Advertisers

Advertising support from these firms allows us to continue delivering the state's environmental industry news to your desk. Thank them—next chance you get.