

Florida Specifier

Practical Information For Environmental Professionals

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Fort Pierce plant upgrade 5

The Fort Pierce Utilities Authority recently announced the opening of its BCR Environmental Clean B system at its Island Water Reclamation Facility.

Coal ash rule 6

The EPA released its final rules for handling coal ash, formally known as coal combustion residuals. The new rules do not designate CCR as hazardous waste under Subtitle D of the Resource Conservation and Recovery Act, a decision that disappointed environmental activists.

Destin water study 7

The Panhandle city of Destin received grant funding for a study that will look into ways to improve the operation of its drinking water system.

Martin County comp plan 8

Martin County officials defended their environmental record in response to concerns from state officials about changes to the county's comprehensive plan. The state Department of Agriculture and Consumer Services said changes adopted by the county would encourage more river pollution—not less.

Corps approves CEPP 13

The U.S. Army Corps of Engineers approved the Central Everglades Planning Project outlining engineering and construction budgets for projects that will treat and divert about 14 percent of Lake Okechobee's water south through the Everglades.

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Got a story lead?

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

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Photo courtesy of Professor Chris Langdon

Alyson Venti, a member of a University of Miami research team, logs seawater chemistry samples during coral reef studies in the Florida Keys. The research focused on reef corals' resistance to increased seawater acidity and temperature caused by rapidly increasing atmospheric CO₂. See story on Page 12.

Auditor's report recommends improvements to SFWMD's Dispersed Water Management program

By ROY LAUGHLIN

In 2014, the South Florida Water Management District Inspector General looked closely at administrative procedures and budgets for the district's Dispersed Water Management Program.

The auditing staff found several administrative issues that were corrected as soon as they were noted. Their report also identified millions of dollars in possible funding shortfalls.

SFWMD's Dispersed Water Management Program leases land from willing landowners and makes any capital improvements needed to store runoff water on the land.

The district began the program in 2005. It had eight sites by 2010; that number grew to 29 by early 2014. With the addition of seven more in December last year, the program now has 36 sites.

The DWM Program includes five procurement categories: Florida Ranchlands Environmental Services Projects, or FRESPPs; Private Lands; Public Lands; Northern Everglades Payment for Environmental Services, NE-PES; and Water Farming Payment for Environmental Services Pilot Projects.

The report said that in some cases, district staff had not inspected sites to ensure that work was done. The program does not stipulate inspections. Plus, invoices do not specifically include details of the work efforts.

The auditor's report also identified some improvements that can be made to strengthen DWM and improve the program's cost efficiency.

The primary recommendation in-

involved payments to the Highlands Soil and Water Conservation District, or HSWCD, to support a three-year project between the HSWCD and Lykes Brother's Inc. for a FRESPP agreement.

The SFWMD, which was not a party to the original contract negotiations between HSWCD and Lykes Brothers, has been funding the project since 2006.

The auditor's report found fault with the arrangement because costs were not categorized as general or administrative. HSWCD receives five percent of the participation fees, \$18,750, yearly and up to \$4,762 in operation and maintenance fees from the SFWMD. The auditor criticized this relationship.

"Based on discussions with DWM

staff, we concluded that the district is essentially paying HSWCD about \$23,512 per year for making payments to the contractor and forwarding invoices to the district for reimbursement," it wrote. "No other services are provided."

DWM staff acknowledged that invoices could be sent directly to the district for payment.

In September, 2014, SFWMD revised the contract specifying those activities for which Lykes may apply the 17 percent general and administrative fee of total reimbursable operations and

DWM
Continued on Page 12

Mosaic negotiating gypstack settlement

By ROY LAUGHLIN

Since 2003, the U.S. Environmental Protection Agency has engaged in a thorough review of mining company operations to ensure their compliance with the Resource Conservation and Recovery Act.

In Florida, phosphate producers are by far the largest mining enterprises and Mosaic LLC is at the top of the list.

In the final quarter of last year in its filing with the U.S. Securities and Exchange Commission, Mosaic provided details of a proposal to EPA to settle a number of RCRA violations or alleged violations by the company.

According to the filing, the EPA's complaints dealt primarily with the firm's handling of process water used to extract phosphate from ore.

The process water is highly acidic

with a pH below 2 and contains a number of trace contaminants including arsenic and cadmium that should be managed as hazardous wastes.

Since the EPA began its enhanced inspection, Mosaic received notices of violation from the agency related to hazardous waste handling at a number of its Florida facilities: Riverview in September 2005, New Wales in October 2005, Mulberry in June 2006, Green Bay in August 2006, and Bartow in September 2006.

In addition, Mosaic now owns a phosphate plant in Plant City that received an NOV in the same time interval when the plant was owned by Cargill.

Negotiations are now underway and

MOSAIC
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EPA issues methane emission guidelines for petroleum and natural gas facilities, activities

Staff report

In mid-January, the Obama Administration issued long-expected methane emission guidelines for petroleum and natural gas drilling, refining and transmission facilities and activities.

In March, 2014, President Obama issued a series of climate change initiatives that included a determination of the need for additional regulations and standards for methane emissions from industrial operations in the U.S.

The administration had set a Dec. 21, 2014, deadline for announcing strategies for reducing methane emissions. In late December, the agency announced it would delay until 2015, so the mid-January release came as a surprise to many.

In November, 2014, the U.S. Environmental Protection Agency finalized greenhouse gas reporting and confidentiality rules that included revising monitoring and data disclosure requirements for the petroleum and natural gas industries.

The new reporting rules amended calculation methods, monitoring and data reporting requirements, and technical and editorial errors found in initial versions of the rule.

The petroleum and natural gas industries are the country's largest industrial

emitters of methane. Fracking yields substantial amounts of methane, which is sometimes vented or flared to the atmosphere when it cannot be captured during drilling operations.

Methane is 80 times more potent than carbon dioxide as a greenhouse gas, so relatively small amounts have a disproportionate influence on global warming.

The president's plan, released in March of 2014, directed the EPA to identify and evaluate significant sources of methane and other greenhouse gas emissions from oil and natural gas production.

It also tasked the U.S. Department of Interior's Bureau of Land Management and the EPA to determine the need for regulations and standards to reduce venting and flaring during gas production on public lands.

No regulations for lead ammo. The U.S. Court of Appeals for the District of Columbia upheld an EPA decision not to

regulate lead hunting shot and bullets under the Toxic Substances Control Act.

The suit arose as a result of a 2010 petition by environmental activists asking the agency to ban lead hunting ammunition under TSCA. The EPA declined the request saying that it had no legal authority to ban lead in hunting ammunition.

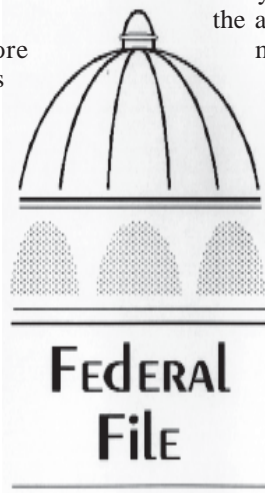
In 2013, the Center for Biological Diversity, along with six other environmental organizations including Preserve Our Wildlife of Florida, brought suit to force the EPA to ban lead shot.

The U.S. District Court for the District of Columbia ruled that the EPA had correctly dismissed the petition.

In October, 2014, the U.S. Court of Appeals upheld the lower court ruling.

Several pro-gun groups joined the EPA in the court case. The National Shooting Sports Foundation, the National Rifle Association, Safari Club International and the Association of Battery Recyclers intervened.

This may be the end of the line for ef-



orts to have the EPA ban lead shot in hunting ammunition unless congressional legislation empowers the EPA to do so.

Florida firm cited in lead rule crackdown. Dynamic Construction and Roofing LLC was recently cited in an EPA national compliance crackdown.

The Longwood-based firm was the only Florida company out of more than 60 nationwide to be cited in the effort to ensure compliance with the Lead Renovation, Repair and Painting Rule.

Dynamic was one of six companies in a group to which the EPA issued a complaint that may require a change in practice but does not require the company to pay fines or penalties.

Clarification on "solid waste." The EPA released its final definition of the solid waste rule under Subtitle C of the Resource Conservation and Recovery Act.

The clarification addresses which hazardous wastes receive exemptions from Subtitle C standards when they are reclaimed or, more specifically under terms of the rule, "legitimately reclaimed."

The new rule imposes two conditions that characterize legitimate recycling. The hazardous secondary material must provide a useful contribution to the recycling process, and the recycling process must produce a valuable product or intermediate.

Recyclers can generally show they meet these two considerations if the secondary materials are valuable commodities, and products in the recycling process contain significantly higher levels of hazardous constituents.

To meet the standards of the new rule, wastes treated by off-site recycling must go to at a RCRA-permitted facility or one with a verified recycler variance.

The new rule's revised definition of "legitimate recycling" affirms the original rule's 2008 exemptions for in-process recycling in the production of commodity-grade recycled products.

The EPA characterized the new rule as one that promotes safe and responsible recycling of hazardous secondary materials and conserves vital resources while protecting those most at risk from the dangers of hazardous secondary materials mismanagement.

Urban waters partnership. A group of 27 nongovernmental organizations including many top environmental groups recently met in Washington, DC, to pledge support for the EPA's Urban Waters Federal Partnership.

The partnership promotes federal efforts to restore urban waters and parks, increase outdoor recreation and engage residents and youth. The focus of the partnership effort is on urban waterways, almost all of which have been polluted to some degree by sewage, stormwater runoff from city streets or contamination from abandoned industrial facilities.

The effort to revitalize urban waters is primarily seen to have community benefits. It helps local businesses and enhances economic, educational, recreational and social opportunities in communities.

A reciprocal benefit occurs when residents participate in restoration programs that reconnect them to their communities through improvement efforts.

Thirteen federal agencies, led by the EPA, are taking part in the partnership. Since its launch in 2011, the partnership has provided grants, resources and expertise to local governments and their efforts to restore urban rivers and jumpstart local economies, particularly in underserved communities.

The Urban Waters Grant Program, a part of the partnership, currently supports 19 communities across the country.

It has awarded \$1.8 million since 2011. The federal grant money leveraged an additional \$6.7 million in local projects

Florida Specifier

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Florida PSC gives FPL permission to hit customers for exploration costs

Staff report

The Florida Public Service Commission gave Florida Power & Light Co. approval to charge customers for exploring for natural gas using fracking techniques.

The panel concluded that the project would save customers more than \$100 million over 30 years and help stabilize some of the company's energy costs.

The measure was opposed by the state's largest industrial energy users, the Florida Retail Federation and several environmental groups.

The PSC postponed a decision until March on whether FPL will be allowed to charge customers up to \$750 million a year in similar projects without approval from the commission.

Duke Energy said it is also considering asking for permission to charge customers for fracking exploration.

Currently, utility companies are allowed to pass along all of their fuel costs to customers but are obligated to try to hedge the impact of fluctuating prices.

FPL argued that, because it purchases more natural gas than any utility in the nation, it has an economic interest in finding ways to reduce the impact of volatile natural gas costs.

Solar energy amendment. A petition drive has been launched for a Florida constitutional amendment that would open up the business of selling electricity from solar energy.

An unlikely coalition of environmental activists, political conservatives and business leaders aims to put a proposed constitutional amendment on the 2016 state ballot. The petition would need nearly 700,000 signatures.

The proposed amendment would require state Supreme Court approval and its passage would require at least 60 percent voter support.

Coalition organizers want to emulate the campaign behind last year's passage of Amendment 1, the Land and Water Legacy Amendment, requiring the state to dramatically accelerate spending on environmental needs.

That will mean expanding the coalition to perhaps hundreds of groups as members.

Leaders of Floridians for Solar Choice want to allow entrepreneurs to become power providers. Officials say both the consumer and business community will benefit.

Okeechobee Waterway lock operations. The U.S. Army Corps of Engineers Jacksonville District seeks public comment on a proposal to reduce operating hours at locks in the Okeechobee Waterway in accordance with a national strategy to standardize lock operations.

The proposed operating hours at each of the five locks are from 7 a.m. to 5 p.m., seven days a week.

The proposed change would take effect on April 1, and would affect the locks at Moore Haven on the west side of Lake Okeechobee, Ortona near LaBelle, Port Mayaca on the east side of Lake Okeechobee, St. Lucie near Stuart and W.P. Franklin near Fort Myers.

Jim Jeffords, operations division chief for the corps' Jacksonville District, said the changes will allow the district to reduce overtime while still maintaining operating hours that accommodate 95 percent of the boat traffic that passes through the locks.

Written comments on the proposal are being accepted until Feb. 13.

Cell closed at Quincy landfill. Quincy city commissioners approved closure of Cell Number 9 at Byrd Landfill as a Class III disposal site with the approval of the Florida Department of Environmental Protection.

City staff advised DEP that the cell had been used for yard waste disposal for many years. The site was tested and the results shared with DEP confirmed that the cell contained yard debris.

Interim City Manager Mike Wade said

the city could save up to \$1 million and that there will be no long-term monitoring commitments.

The cell was originally classified as a Class I solid waste cell in the early 1990s. Cells with that classification are much more costly to close.

Company news. HDR Inc. acquired Infrastructure Corp. of America, a specialist in transportation engineering, asset maintenance and management, and MEI LLC, a consultant to the liquid natural gas sector. HDR maintains 20 offices across Florida.

People news. Rob Kincart, president of A-C-T Environmental & Infrastructure Inc., is one of three new appointees to the State Emergency Response Commission.

The SERC is responsible for implementing the federal Emergency Planning and Community Right-To-Know Act in Florida and serves as a technical advisor

and information clearinghouse for state and federal hazardous materials programs.

Escambia County Community and Environment Department Director Keith Wilkins was selected to serve as president of the Florida Local Environmental Resource Agencies.

Wilkins will direct the organization's business including environmental legislative policy during the upcoming 2015 session as well as educational and membership development initiatives.

Cari Roth joined the Dean Mead law firm in its Tallahassee office as Of Counsel in the government relations, lobbying and administrative law practice group. She has nearly 30 years of public and private sector experience dealing with environmental issues, land use law and lobbying.

Roth currently chairs the state's Environmental Regulation Commission.

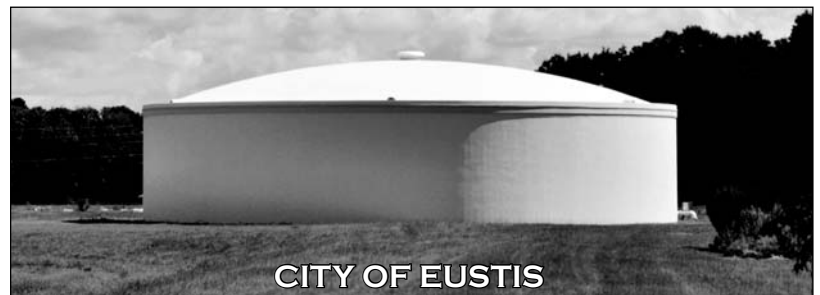
Ed Craig, manager of the Facilitating Agricultural Resource Management Systems program at the Southwest Florida

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Florida Notes



Prestressed Concrete Tanks



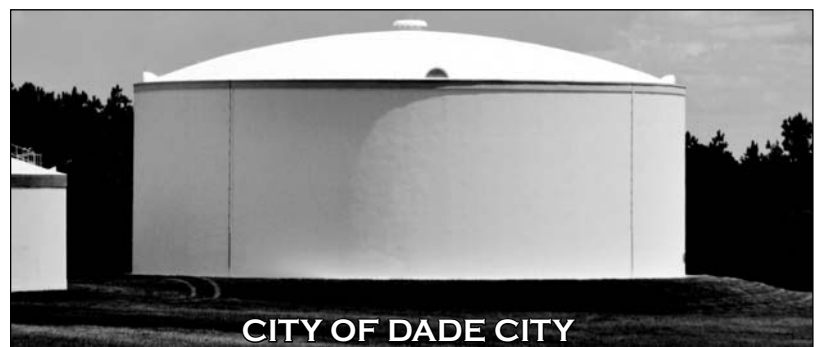
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SFWMD, Martin County purchase Harmony Ranch to capture runoff

Staff report

Harmony Ranch in western Martin County is now in the public domain, following a joint purchase by the South Florida Water Management District and Martin County.

Martin County contributed \$3.2 million toward the purchase and the district paid the remainder of the \$20.3 million cost with funds from the Florida Forever Trust Fund.

The purchase represents a key element of the Palmar project that will reduce polluted runoff from the northern Everglades

that flows into the Indian River.

Harmony Ranch, in the 190-square-mile C-44 Basin, will retain water that would otherwise drain via the St. Lucie Canal into the St. Lucie River and then into the Indian River Lagoon.

The project will help with efforts to improve natural lands, water storage and water quality from the Everglades to the Atlantic Ocean.

St. Mary's rule challenge. Rayonier Performance Fiber LLC and RockTenn LLC filed a challenge to the Florida Department of Environmental Protection's

proposed numerical nutrient criteria for the St. Mary's Estuary.

The complaint was filed before the Florida Division of Administrative Hearings in early December, and follows recent approval of the NNC by the state Environmental Regulation Commission.

Rayonier operates a manufacturing plant that converts cellulose from trees into fibers. RockTenn, also a forest product company, makes cardboard and cardboard boxes. Both have been in the area for decades.

In the filing, the companies made several points against the NNC.

The first is that the companies currently use biological treatment for their wastewater treatment that is approved in their NPDES permits. Those treatments require nutrient addition to ensure the necessary level of effectiveness.

If they are subject to the NPDES permit as well as Florida's new NNC, it could potentially reduce the amount of water the plants can discharge, forcing them to reduce their current operations and preventing any future expansion.

A central argument in the plaintiffs' filing is that in determining NNC for the St. Mary's Estuary, DEP "planned to adopt criteria that were representative of conditions in the estuary during years when it maintained a well-balanced, natural populations of flora and fauna."

The plaintiffs allege that DEP has not established water quality standards "representing a quality of water that supports the present and future most beneficial uses" and has not identified the threshold at which additional nutrients will cause an imbalance detrimental to present and future beneficial uses.

The estuary is currently a Class III water and should support a diverse natural ecosystem and fisheries.

This is the first challenge of a new state NNC since the settlement with EPA began yielding final rules that can be enforced.

A final hearing in the case is scheduled for Feb 10-11.

Martin rain gardens. Martin County officials are promoting the use of rain gardens by constructing models on two public properties.

One is at the Hoke Library in Jensen Beach and the other is at the Old Palm City Community Development Area.

Martin County officials hope they will encourage residents to incorporate more

rain gardens into residential landscaping.

A commercial landscaping company, Valley Crest, constructed the demonstration projects. The effort included use of heavy equipment to grade the depression required. Some irrigation hardware was also involved.

Two Martin County programs provided financial support for the demonstration projects and public outreach efforts—the Ecosystem Restoration and Management Division and the Florida Yards and Neighborhoods Program.

The Community Development Agency paid for the garden at Old Palm City.

Southwest water quality projects. Amendment 1 may generate as much as \$750 million in its first year for water quality projects and advocates across the state are promoting projects for their share of the money.

The Caloosahatchee River Forum, held in December in Fort Myers, identified several projects in Southwest Florida as priorities to improve water quality.

These include construction of the 170,000-acre Caloosahatchee River Reservoir and operations to reduce nitrogen in runoff to the river, restoration of the northern part of Lake Hicpochee and reduction of stormwater runoff into Charlotte Harbor.

These were identified as near-term needs. One project, the Hicpochee Project, is scheduled to begin this summer. It will route water from Lake Okeechobee through the Nicodemus Slough to Hicpochee and then into the Caloosahatchee River. Land for this project is largely publicly owned.

Over the coming decades, nearly half a billion dollars may be needed for these water quality improvement projects on the Caloosahatchee River.

The Caloosahatchee Reservoir, estimated to cost \$450 million, dominates the estimated \$480 million cost for all the priority projects identified.

Funding from Amendment 1 alone will not fund all the projects selected. Project proponents will seek additional funding from both state and federal sources.

Boggy Bayou Watershed plan. The city of Niceville will receive \$4.2 million from the National Fish and Wildlife Foundation for stormwater improvements within the Boggy Bayou Watershed.

The city will use the money to install sediment collection and treatment facilities at stormwater outflows into Boggy Bayou. In addition, management controls for stormwater runoff will be installed at Thomas Branch.

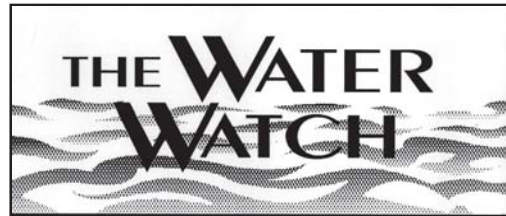
According to city officials, stormwater runoff in some of the older neighborhoods flows directly into the bayou and then into Turkey Creek. The proposed stormwater management efforts will improve runoff water quality before it enters the bayou.

In addition to upgrading stormwater treatment facilities, the city will remove exotic plant species and replant emergent grasses at the headwaters of the bayou.

Reducing nutrient inputs into the bayou is expected to restore habitat for native wildlife that has been seriously reduced by reductions in dissolved oxygen due to eutrophication.

SW district buys Boat Springs. The Southwest Florida Water Management District acquired Boat Springs. The district purchased nearly 82 acres, 53 of which are in Hernando County and 28 in Pasco County.

The land purchased includes the springs and spring runs—the headwaters of the Hammock Creek Springs system



WATCH
Continued on Page 5

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Florida Specifier

FPUA reclamation facility implements environmentally friendly, economically beneficial upgrades

By PRAKASH GANDHI

The city of Fort Pierce on Florida's east coast has made major improvements to its wastewater treatment system.

In December, the Fort Pierce Utilities Authority announced the grand opening of a BCR Environmental Clean B system at the city's Island Water Reclamation Facility.

The wastewater treatment plant serves the city of Fort Pierce and the immediate surrounding area, encompassing about 30 square miles.

The wastewater collection system consists of 118 lift stations, 168 miles of gravity sewer lines ranging from eight to 48 inches in diameter, and about 88 miles of force mains.

The Island Water Reclamation Facility has a permitted capacity of 11.5 million gallons a day.

The new system includes Clean B disinfection, stabilization, dewatering, transportation and final disposition of the bio-

solids. The treatment system was provided by BCR Environmental based in Jacksonville.

"This new technology enables us to use the product for beneficial agricultural use— versus dumping at a landfill," said Larry Benning, FPUA's water reclamation superintendent.

The cost savings of the BCR unit are projected to be \$1.8 million over the course of a seven-year payback period, after which time savings are expected to be \$400,000 per year, he said.

The system converts municipal biosolids to odor-free stabilized Class B material in a fraction of the normal time and cost of traditional digestion systems.

FPUA maintains a deep injection well at the plant site. A pumping station injects treated effluent into the 3,300-foot-deep injection well.

Class B biosolids have significantly reduced levels of pathogens and vector attraction, which help protect public health

annual symposium in Dallas, TX.

The award acknowledged Xylem's leading edge work to optimize advanced water treatment processes for potable reuse.

Xylem's fluid technology and equipment is now being used in projects in Florida and California.

The technologies developed by Xylem are designed to provide the highest level of treatment to ensure protection of human health and the environment.

Xylem said that its growing water reuse business is dedicated to helping make water-scarce communities around the world more resilient to climate change, urbanization and emerging water quality issues.

The company offers a fleet of advanced treatment pilot equipment to demonstrate solutions for water reuse that are both safe and sustainable.

New aquatic preserves manager. Katie Maxwell is the new preserve manager for the St. Andrews Bay and St. Joseph Bay aquatic preserves.

The two preserves total more than 97,000 acres and include a variety of rare species found only in this part of Florida's Panhandle.

Funding for Maxwell's position came from a grant from the National Fish and Wildlife Foundation.

The Florida Department of Environmental Protection and the Apalachicola National Estuary Reserve partnered on the grant application.

and the environment.

In August, the Florida Department of Environmental Protection issued a revised permit to allow construction and subsequent operation of the system at the Island Water Reclamation Facility.

The system produces biosolids that can be applied beneficially to land, transferred to a DEP-approved biosolids treatment facility or used as biofuel.

In the first year alone, the system is expected to save FPUA about \$190,000 by reducing energy consumption, simplifying

treatment operation and lowering operating costs, according to utility officials.

"This new system will not only conserve energy but will also process wastewater that is more environmentally friendly, keeping Fort Pierce beautiful for all to enjoy," said Bill Thiess, director of utilities at FPUA, in a statement.

Michael Bechtold, a professional engineer with DEP, praised FPUA for building an environmentally sound alternative for its biosolids treatment.

"Biosolids can be a useful product when provided sufficient treatment," Bechtold said.

WATCH

From Page 4

that flows into the Gulf of Mexico.

The land is adjacent to the district's Weeki Wachee Preserve Project and is notable because it includes the springs, spring runs and a natural sand ridge nearly 40 feet high.

The district paid \$1,319,000 for the property with money from the Forever Florida Trust Fund.

SFWMD release carp for hydrilla control. The South Florida Water Management District released over 8,000 sterile Asian carp into canals near Homestead in an effort to control hydrilla.

Hydrilla is an invasive underwater plant whose explosive growth poses significant problems in drainage canals.

It is a vine-like plant that can grow up to an inch a day until it is about 20 feet long, crowding out native plants, reducing dissolved oxygen levels at night and impeding water flow through canals.

The district plans to purchase 24,000 carp, releasing them between Homestead and canals in West Palm Beach.

They paid an Arkansas fish hatchery \$3.74 per fish that were released in late December and January. About 10 carp can clear hydrilla from one acre of water.

Carp prefer hydrilla over most other plants, including native plants.

The use of Asian carp for biological control is a change for the district from herbicide applications that have been done for the past 20 years.

Reef construction in Southwest Florida. A project billed as the largest project of its kind in the Western Hemisphere will use about 18,000 tons of concrete waste to construct 36 separate reefs in deep waters off Marco Island.

The reef construction will use discarded concrete debris, much of it cement drainage pipe, currently in a landfill near Naples.

In early January, the first barge of concrete and limestone debris was dumped onto the ocean bottom.

When the project is complete, 36 separate debris reefs will stretch from about 12 miles to about 30 miles from shore, west of Marco Island.

Creating 36 reefs in clusters of six piles of debris is expected to continue for at least six months. The reef construction recently received a U.S. Army Corps of Engineers' permit.

The joint project between Collier County and the cities of Marco Island and Naples is funded through a grant from the National Fish and Wildlife Foundation, established with fines from the 2010 Gulf oil spill.

Xylem receives association award. The WaterReuse Association awarded Xylem Corp. its 2014 WaterReuse Equipment Manufacturer of the Year Award at their

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EPA issues final rules for handling coal combustion residuals

By ROY LAUGHLIN

The U.S. Environmental Protection Agency announced its final rules for handling coal ash, formally known as coal combustion residuals, or CCR. The new rules do not designate CCR as hazardous waste under Subtitle D of the Resource Conservation and Recovery Act.

Though activists had pushed for a hazardous waste designation for coal ash, EPA determined that it should be handled as normal household waste and nonhazardous solid industrial waste.

Enforcement of waste handling regulations is left largely to state and local governments.

The rule requires that new coal ash impoundments include liner barriers that will prevent the contamination of groundwater by leachates.

New impoundments will not be allowed in sensitive areas including wetlands and earthquake zones. All surface impoundments will be subject to regular inspections to ensure structural safety.

Groundwater around all surface impoundments will be monitored for toxic materials leaching from coal ash. Unlined coal impoundments found to be polluting groundwater will be closed.

In addition, fugitive dust controls will be implemented to reduce windblown coal ash and dust.

The rule requires closure of active surface impoundments that fail to meet engineering and structural standards. This provision of the new rule affects most electrical generation facilities because they produce so much CCR.

In July, 2014, the EPA drew up a list of generation facilities with a "High" or "Significant" hazard potential rating based on the agency's CCR dam assessment effort.

The list included 60 coal ash impoundments, 50 of which were rated as having a high risk and the remainder as significant risk sites.

The list included no Florida facilities. North Carolina had the most sites with 12 impoundments at eight facilities owned by Duke Power, and two owned by Progress Energy Carolina. Arizona was next on the list with nine ponds at two generation plants.

The new law requires owners and operators of CCR storage facilities to provide comprehensive disclosure and reporting to the EPA.

The information will be shared with state and local governments to assist in regulatory activities. In keeping with the

Obama administration's emphasis on transparency, companies will post the information on a publicly-accessible website.

Users of impoundments that do not meet current engineering standards will be able to use them for a short time longer provided that they are not leaking or found to be structurally unsound.

The rule does not apply to abandoned, unlined disposal pits. The EPA said it does not have the authority to regulate such sites.

The push for regulation of CCR disposal sites began in December of 2008 when the Tennessee Valley Authority's Kingston Plant impoundment failed.

Then in February 2014, a retired ash pond in Eden, NC, operated by Duke Energy breached, spilling coal ash slurry into the Dan River, causing an estimated \$300 million in damages.

These two events were the poster children for proponents of stronger regulation, but smaller, less sensational contamination by CCR impoundments is widespread.

In its background assessment for rule development, the EPA identified more than 500 facilities across the country and documented almost 160 cases of contamination to surface or groundwater linked to improperly constructed or managed coal ash disposal units.

Handling CCR as nonhazardous waste recognizes the immense volumes produced each year. In recent years, the U.S. has burned about 800 million tons of coal annually and about an eighth of it—about 110 million tons annually—remains as CCR.

Some 40-45 percent of the CCR has beneficial uses that, according to the EPA, provide environmental and economic benefits. Coal ash is put on icy roads, may be used for fill material, and is often used in cement and concrete to increase durability and strength. A hazardous waste designation would have eliminated these beneficial uses.

Neither regulated industries nor environmental activist groups were completely satisfied with the new rule, at least in public statements.

Some of the rule's opponents said that it is yet another front on the Obama

administration's "war on coal." Environmental and public welfare advocates, even those who acknowledge that the public is better off with these new CCR regulations than in circumstances under no regulation, said that the new rules do not go far enough.

The new rule will not, in the short term, provide protection against impoundment failure and water contamination. Ending all wet storage of coal ash—and its potential for contaminating ground and surface waters—was a stipulation that activists most wanted in the new rule.

The rule has limited impact on Florida utilities. In 2005, Florida had 30 coal-burning power plants and, in that year, coal plants accounted for about 19 percent of Florida's generating capacity and 30 percent of Florida's electricity generated that year.

Since 2005, several coal plants have been either shuttered or converted to use other fuel, primarily natural gas.

Duke Power's Crystal River coal plant is slated to be converted to natural gas fuel in the next year or two. Orlando's Curtis H. Stanton Energy Center converted its coal burning generators to run partially on natural gas.

A recent report from the Union of Concerned Scientists said that in 2012, Florida power plants burned 14.5 million tons of coal, 35 percent less than in 2008. That volume could translate to as much as 1.5 million tons of CCR per year in Florida.

Since 2009, when the EPA began looking carefully at CCR impoundments, several Florida plants, including the Stanton plant in Orlando, modified CCR handling facilities to meet expected regulations.

The status of all CCR facilities at Florida's coal burning power plants will become much clearer in the next year or so as reporting requirements of the recently passed rule become effective.

Anticipation of change in regulations for emissions from coal powered plants and for handling CCR has played a big role in changes that the electrical power industry has adopted in the past few years as natural gas and renewable power technologies have become available.

City of Marathon, contractors settle on final bills for wastewater system

Staff report

With the recent settlement of a lawsuit between construction company Globetec and the city of Marathon, the Middle Keys city is nearing the end of a \$100 million public works project to provide wastewater

treatment to its residents.

Marathon and its contractors had disagreed about \$8 million plus of costs.

But negotiations bore fruit in October and brought the contested costs down to \$2.35 million.

At its December 2014 meeting, the Marathon City Council approved payment without discussion when it approved the consent agenda for the meeting.

One Marathon City Council member characterized the negotiated settlement as a win for the city, noting that if they had lost a trial judgment, they would have also had to pay all of Globetec's attorney's fees.

The city had set aside the funds to pay for the disputed costs several years ago, and paid the bill in late November, shortly after negotiating a compromise cost.

An additional company, Weiler Engineering, a Globetec subcontractor, was also party to the lawsuit and the settlement.

The city agreed to waive and release claims against Weiler associated with the lawsuit over disputed costs. All three parties agreed to pay their own attorneys' fees and equally share the cost of a mediator who worked to establish the out-of-court settlement.

The original \$8 million was associated with over two dozen cost overrun items that the city disputed because change orders for the work were never approved or were for features not included in the original scope of work.

The final settlement was only a few percent of the total, an amount that Marathon's mayor defended as being reasonable with respect to the total cost and the best way to settle such disagreements that are not uncommon on a project of this size.

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ECUA wrestles with alternatives for dealing with discharges from its Pensacola Beach wastewater plant

By **BLANCHE HARDY, PG**

Late last year, the Emerald Coast Utility Authority received notice of a Florida Department of Environmental Protection draft permit to operate the utility's 2.4-million-gallon-a-day Pensacola Beach domestic wastewater treatment plant.

ECUA's permit request is for a routine five-year renewal. It allows for the continuing discharge of treated wastewater into Santa Rosa Sound.

DEP's notice indicates the department intends to issue the permit with included conditions unless, as a result of public comment, appropriate changes are made.

The conditions of the permit generated demands from environmental advocates to deny future permits containing the same allowances, specifically for allowing effluent discharges to the sound and land application of reclaimed water.

One suggested alternative is to send treated wastewater processed at the Pensacola Beach facility over to the mainland.

The Pensacola Beach plant is compliant with all DEP standards and has, in conjunction with ECUA's Bayou Marcus plant, won 21 gold or silver awards from the National Association of Clean Water Agencies.

"The plant uses an advanced wastewater treatment process and the numeric nutrient criteria is currently met with levels at 5-5-3-1," said Nathalie Bowers, ECUA's spokesperson.

These numbers represent the allowed effluent concentration in milligrams per liter as an annual average for basic oxygen demand, total suspended solids, total nitrogen and total phosphorus, respectively.

The 5-5-3-1 standard is applied to facilities with a design flow equal to or

greater than 100,000 gallons a day that discharge into surface waters.

Bowers attributes the success of the existing system to their staff of engineers and state-certified operators that manage the plant and its daily operations.

"We have invested significantly in the infrastructure on Pensacola Beach, sealing all the mains to reduce the inflow and infiltration of salt water into our collection system," she said. "This reduction of salt-water intrusion contributes positively to the plant's operational performance."

The plant has not yet reached its discharge capacity. The annual average daily discharge is 900,000 gallons of wastewater of which 70,000 to 80,000 gallons are reclaimed daily.

The major challenge is finding uses for the plant's available reclaimed water, particularly in the winter.

On the mainland, ECUA has two significant industrial clients, Gulf Power and International Paper, that consume a significant volume of the mainland plants' reclaimed water.

However on Pensacola Island, no such industrial users are in place. But the utility has already taken measures and is implementing a phased approach to expand their reclaimed water system.

Bowers said the utility has a five-phase reclaimed water program at the Pensacola Beach plant that currently provides reclaimed water to the Santa Rosa Island Authority for irrigation and reuse within the plant itself.

"We just received a grant from the Northwest Florida Water Management District for the second phase of our program to expand capacity with the addition of a 750,000 gallon storage tank and

booster pumping station," she said.

The two- to three-year expansion plan will allow processing of approximately 285,000 gallons of reclaimed water daily to support additional reuse and reduce the volume of water discharged to the sound.

Additional phases are planned, but may take up to a decade to fund and fully implement.

ECUA has also investigated the cost, constructability and risks of conveying treated wastewater back to the mainland facility.

"Installation of a sub-aqueous/direc-

tional drilled pipeline to the Pensacola mainland or Gulf Breeze seems superfluous in light of our developing reclaimed water program and very expensive at an estimated \$35-50 million, she said.

"Additionally, it would not allow for the best use of the reclaimed water, or offsetting the projected potable water demands or residents and business owners.

"When Phase 5 is complete, we anticipate that approximately 600,000 gallons per day (of reclaimed water) will be used for irrigation and non-potable applications, which is a highly desirable outcome for residents and visitors of Pensacola Beach."

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DWU reviews water system status with eye on fulfilling future demands

By **PRAKASH GANDHI**

The small Panhandle city of Destin received grant funding for a study of the best ways to make improvements to its drinking water system.

The west side of the city is the target region of the new study as Destin Water Users will survey the area for potential improvements.

The city received a legislative appropriation last year for \$40,000 and officials are leveraging that with matching grant dollars from the Northwest Florida Water Management District, said Destin Water Users General Manager Lockwood Wernet.

"We are trying to make sure we have an adequate distribution system and water supply to serve the customers in the western portion of our service area," Wernet said.

The purpose of the study is to update and improve the modeling of the potable water system. The study will focus on the oldest portion of DWU's system from Beach Drive west to the Marler Bridge, an area ripe for additional expansion.

"The survey entails looking at our existing water models and updating those models," Wernet said.

He said that continued growth in the area requires improved service to meet future demand.

"Destin Water Users is actively planning for the future water supply for this portion of our service area to limit the demand on our coastal wells, to prepare for potential growth and to increase usage from the inland wellfield," he said.

The \$80,000 study will review the existing water distribution system to determine improvements needed based on the size of existing pipes and water system pressure.

"This area is the oldest portion of our service area and we anticipate that we will see increased demand with future development," Wernet said.

DWU partnered with the consulting

firm Polyengineering Inc. to start the project. DWU Operations Manager Monica Autrey, PE, is the project manager.

The company will produce a water model analysis of the system, identify potential issues and give recommendations on where the city needs to increase the size of pipes.

That model will be used to plan future improvements to that area of town.

Wernet said the study should be completed by this fall.

"We are complying with our consump-

DWU
Continued on Page 8

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Martin County, state at odds over comprehensive plan amendments

By PRAKASH GANDHI

Martin County officials are defending their environmental record in response to concerns from state officials about changes to their comprehensive plan.

The Florida Department of Agriculture and Consumer Services said the changes that have been adopted by the county would encourage more river pollution—not less.

The agency said it wants the state De-

partment of Economic Opportunity to reject Martin County's comprehensive plan amendment dealing with onsite treatment and disposal of sewage.

But Martin County officials said the state supports their comprehensive plan amendments and are confident that the reviewing agencies will ultimately approve them.

"We did not get any objections during the review of the plan amendment initially, so it is highly unlikely that the state will object to it now," said Nicki Van Vonno,

the county's growth management director.

Martin County is among the counties that suffered most from the water pollution issues that plagued the St. Lucie Estuary and Indian River Lagoon in 2013.

DACS claims that if the amendment is approved, many essential agricultural activities such as providing farm worker housing, restroom and food preparation facilities, and agricultural product processing facilities will be impossible to sustain.

In addition, by prohibiting the extension of regional wastewater collection facilities associated with central sewer infrastructure within the surrounding urban service area, Martin County is "adversely affecting and limiting agricultural operation," said the department.

The comprehensive plan amendments were adopted by the county commission in December. The amendments will now be reviewed by the state.

The county acknowledged that proper planning for an investment in infrastructure constitutes a basic means of achieving their vision of environmental, economic, social and fiscal sustainability.

The 2014 amendments to this chapter are intended to more closely harmonize infrastructure planning and investment with the county's future land use goals, said county officials.

Toxic blue green algae blooms in the St. Lucie River and the Indian River Lagoon during the summer of 2013 highlighted the negative impacts caused by excessive nitrogen and other pollutants reaching the county's waterways.

"The quality of life and the economy of Martin County rest on its waterways," stated the comprehensive plan amendments. "The county's policy and investment has achieved significant success.

"From 1982 through 2014, Martin County eliminated 70 package plants with a combined treatment capacity of 5.8 mgd by providing regional sewer facilities."

Van Vonno accepts that the county has some serious environmental issues with the Indian River Lagoon.

"There have been massive discharges of nutrients into the lagoon from Lake Okeechobee," she said.

In addition, the county still has a high number of septic tanks. But Van Vonno said the number of package plants and septic tanks has decreased significantly since she started work with the county many years ago.

"The county has worked very successfully to dismantle those aging package plants and put people on central water and sewer," Van Vonno said.

She defended the county's environmental record.

"Martin County has been a strong supporter of Everglades restoration, and the county and its citizens take environmental restoration very seriously," she said. "The county's residents have repeatedly paid taxes to acquire environmentally sensitive land.

"This county is willing to put its money where its mouth is. The county takes environmental restoration and the condition of the Indian River Lagoon very seriously."

Milestone reached with Savannah River Site cleanup

Staff report

The U.S. Department of Energy reached a major milestone in its effort to clean up the Cold War legacy at the Savannah River Site in South Carolina.

DOE Secretary Ernest Moniz signed a determination that allows SRS to complete cleanup and closure of the underground liquid waste tanks in the H Tank Farm as they are emptied and cleaned.

Prior to the determination, the department and SRS conducted extensive environmental analyses, and public review and comment in consultation with the U.S. Nuclear Regulatory Commission.

The state of South Carolina and the U.S. Environmental Protection Agency also provided input during the review process.

cess.

The first tank closed in the H Tank Farm will be Tank 16, which is the only one at Savannah River that historically leaked into the environment.

This will be followed by closure of Tank 12. The determination also allows for the closure of 27 additional tanks after cleaning, following public review and state approval.

Workers have removed more than 99 percent of the liquid wastes in Tanks 12 and 16.

The next steps include grouting the interiors with a cement-like material to stabilize the tanks and immobilize the remaining residual wastes to minimize future risk and protect human health, safety and the environment.

SRS was constructed in the early 1950s to produce the basic materials used in the fabrication of nuclear weapons in support of the country's defense programs.

Tanks 12 and 16, two of the many nuclear facilities constructed at the site to support the effort, were built in the 50s to store radioactive liquid waste generated through the site's nuclear weapons material processing.

DWU

From Page 7

tive use permit by finding ways to increase the amount of water we take from the inland wellfield and decrease the consumption from our coastal wells," he said.

Currently, DWU serves about 16,000 customers in the city of Destin and unincorporated Okaloosa County during the winter months and up to as many as 60,000 during the summer tourist season.

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

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

The DWU project addresses one of the district's priorities under the area's regional water supply plan.



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DEP initiates online survey to determine source of Charlotte County odors

By PRAKASH GANDHI

State environmental officials are trying to find the cause of a foul smell near a waste disposal site in Charlotte County. The odor is annoying residents in several communities in North Fort Myers and southern parts of Charlotte County.

People who live near the Zemel Road waste site said at times they are forced to keep their windows closed.

Now, the Florida Department of Environmental Protection is taking action.

DEP created an online survey and said that anytime someone who lives within three miles of the waste site smells the odor they should complete a form with specific details including wind direction and type of smell.

"The survey will provide the department and the companies involved valuable data to help determine the cause of the odor and create a concrete plan of action," said DEP Spokesperson Mara Burger.

Late last year, the department's south

district office began receiving a lot of odor complaints near Zemel Road.

Officials said there are three waste facilities at the Zemel Road location that could be contributing to the odor.

The three facilities are Waste Services Inc.'s construction and demolition waste landfill that is privately owned; Charlotte County's landfill, owned by the county government; and the privately owned Charlotte County Bio-Recycling Facility.

Officials said the odor has been intermittent for some time. It can last for several minutes or much longer depending on the weather conditions, wind direction and rainfall.

Burger said the online survey will encompass both the dry season and the wet season. It will run until November this year.

"The survey will provide the department and the active facilities sound data that will ultimately assist with creating a solution to remediate odors migrating off-site," she said.

Charlotte County has operated the

Zemel Road facility since July 1975. It is located 12 miles south of the city of Punta Gorda. The disposal area encompasses 108 acres.

The Zemel Road facility has disposal capacity that is projected to last until the year 2030.

State rules require the facility to control objectionable odors. After notification by the department that objectionable odors have been confirmed beyond a landfill's property boundary, the owner or operator must take steps to reduce the objectionable odors.

Such steps can include applying or in-

creasing initial cover, reducing the size of the working face, and ceasing operations in the areas where odors have been detected.

The owner must also submit an odor remediation plan to the department for approval. The plan must describe the nature and extent of the problem and the proposed long-term remedy. The remedy must be initiated within 30 days of approval.

The owner must implement a routine odor monitoring program to determine the timing and extent of any off-site odors and to evaluate the effectiveness of the odor remediation plan.

Draft EA complete for increased manatee protection at Three Sisters Springs

By BLANCHE HARDY, PG

The U.S. Fish and Wildlife Service recently presented a draft environmental assessment for management actions to protect wintering manatees and manage public access at the Three Sisters Springs recreation area in Crystal River.

The FWS' Crystal River National Wildlife Refuge staff received comments on the draft until Dec. 30, 2014. Within the first few days of January, responses to the comments were submitted in conjunction with a final report proposing interim measures to address public access and manatee protection to the Southeast Region 4 Office for final approval.

Kimberly Sykes, assistant manager of the refuge that's home to Three Sisters Springs, said the proposed measures are intended to create an enjoyable wildlife viewing experience while allowing manatees to rest and survive extremely cold weather events.

FWS counts indicate 250 to 300 manatees wintering in Three Sisters Springs from Nov. 1 to March 31, while as many as 100 swimmers and paddlers per hour enter the springs to see the manatees.

Contrary to their appearance, "manatees have very little fat and therefore minimal reserves to expend under stress," said

Sykes.

They can readily suffer from potentially life-threatening blister-like lesions similar to frostbite in humans when exposed to cold. During the uncharacteristically cold weather experienced in 2010, 244 cold-stress related manatee deaths were verified—roughly ten times the five-year average.

Three Sisters Springs typically maintains a cozy 72-74 degree F water temperature year round. When it gets cold, manatees pile into the spring and stack upon one another.


FWS periodically closes public access to the springs because the manatees become so tightly stacked they can harm one another or humans interacting with them or move to life-threatening colder water when they are frightened or become agitated in such close quarters.

FWS is proposing management measures including continued public access restriction to the springs under certain circumstances.

"People cause the manatees to move about and expend energy without reserves," said Sykes.

Cold manatees have no physical reserves to compensate for the loss of en-

MANATEES
Continued on Page 16



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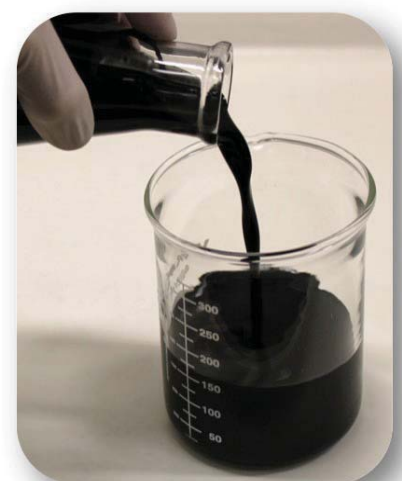
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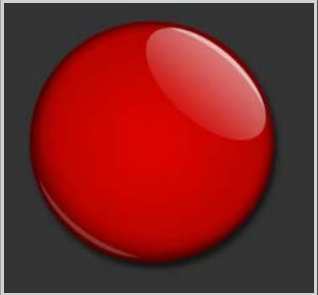
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The de minimis condition concept, further explored

By NICHOLAS ALBERGO, PE, DEE

Since it first appeared in the May, 1993, ASTM E 1527 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, the concept of a “de minimis condition” has been treated with a fair bit of artistic freedom of expression in its application throughout the Phase I world of environmental professionals.

Historically, there has been no independent definition of the term, rather it was embedded within the definition of a “recognized environmental condition,” or REC. But this changed with the publication of the November, 2013, E 1527 version of the above-referenced Standard Practice. The subject of this article is whether or not this change should impact the manner in which the de minimis condition term is properly applied.

So taking a step back and up through the 2005 E 1527 Standard Practice, the concept of a de minimis condition was presented within the REC definition, as follows:

“the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.” (Emphasis added.)

A clarification that conditions determined to be de minimis are not recognized environmental conditions was added in the July, 2000, version of the Standard Practice.

Thus, a de minimis condition was one wherein a release has occurred, for example the petroleum stain on an unpaved parking lot, but where it met the criteria of the second piece of the REC definition—a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

However, as mentioned earlier, the 2013 Standard Practice has afforded de minimis condition its own definition and, as such, physically uncouples it from the REC definition. Now, taken purely in the vacuum of its own definition, the following practical questions can arise when attempting to apply the concept of a de minimis condition within the context of the ASTM E 1527-13 Standard Practice:

Is a prerequisite “release,” by definition within the meaning of CERCLA, still required in order to apply the de minimis condition concept?

Must the subject “release” be to the “environment?”

Must the subject “release” and the requisite determination of a de minimis condition be confined to only hazardous substances and petroleum products, versus its application to a broader class of pollutants and contaminants?

The Release

First and foremost, the purpose of an ASTM Phase I ESA has always been to define good commercial and customary practice in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act and petroleum products.

Thus, the Phase I ESA remains, as always, a CERCLA-driven work product. As such, the first element for establishing CERCLA liability is that there must be a release or threatened release from a facility or a vessel. By definition, that release includes any “spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment including the abandonment or discarding of barrels,

containers and other closed receptacles containing any hazardous substance, or pollutant or contaminant.” (Emphasis added.)

This is fundamental, as CERCLA authorizes the federal government to respond to such releases and to seek reimbursement from potentially responsible parties or to order PRPs to abate releases or threatened releases that may present an “imminent and substantial endangerment” to the public health or welfare, or the environment.

There must also be the requisite bona fide “response action costs.” Thus, a brownfields developer can voluntarily cleanup a site and then sue a potentially responsible party for cleanup costs. And keep in mind that if the costs are not eligible as with, for example, the normal application of pesticides, there can be no recovery of response action costs and thus CERCLA liability is moot.

Next, the release must be to the environment. EPA has interpreted “into the environment” to apply to releases that remain on plant or installation grounds such as spills from tanks or valves onto concrete pads or into lined ditches open to the outside air, as well as releases from pipes into open lagoons or ponds, but they are always under conditions where such discharges are not wholly contained within buildings or structures.

Finally, and based on the release definition, it would appear that the applicability of CERCLA can extend to a universe of substances that includes any hazardous substance, pollutant or contaminant. This implies a larger list of applicable target compounds than is normally associated with the ASTM standard, which largely confines itself to hazardous substances and petroleum products exclusively.

So is a prerequisite “release” by definition, within the meaning of CERCLA, still required in order to apply the 2013 de minimis condition concept?

We know that a de minimis condition is not a REC, a controlled recognized environmental condition or an historical recognized environmental condition. In fact the findings section of the Standard Practice makes that clear: “The report shall have a findings section which identifies known or suspect recognized environmental conditions, controlled recognized environmental conditions, historical recognized environmental conditions, and de minimis conditions.”

Thus, the concept of a finding reinforces that the Standard Practice is concerned with releases, otherwise the environmental professional is simply left with a series of observations. For example, a site that was previously developed with a Kentucky Fried Chicken restaurant is an observation, but not a finding (there is no release concern) and thus never even makes it to the discussion of a de minimis condition.

So is it as simple as noting the small petroleum stain in the parking lot of a super market as a de minimis condition? It would seem so.

The courts have generally broadly interpreted the term “release” and there is no minimum quantity requirement in order to qualify as a CERCLA release. Likewise, courts have liberally construed the meaning of “threatened release” so that corroding or deteriorating drums have been interpreted to be a threatened release so as long as the release is “into the environment.”

But what about other forms of solid waste where there is concern for releases of hazardous substances or petroleum products to the environment? When is it appropriate to use the de minimis condition concept versus, for example, business environmental risk? Recall that a business environmental risk is a risk that can have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues (releases or threatened releases of hazardous substances and/or petroleum products) required to be investigated when performing an ASTM Phase I ESA.

Does it really matter? The answer is yes, it does. We can all agree that a pile of new aluminum fence posts on the grounds of the property is an observation and not a de minimis condition, but we are seeing other solid waste-related observations that are being characterized by environmental professionals as a de minimis condition, when they may not be. Others opt out of a formal determination altogether and simply identify such as a business environmental risk.

This artistic license, with regard to the application of the ASTM Standard Practice, can be complicated if the interpretation is challenged, as can be the case with clients who don’t desire that business environmental risks be included in Phase I’s. Keep in mind that one type of finding/conclusion (a de minimis condition) is absolutely required to be identified by the standard, while the other (a business environmental risk) is not.

Even worse is the instance where the de minimis condition was applied or not mentioned at all [40 CFR § 312.20(h) provides that the environmental professional

need not specifically identify extremely small quantities or amounts of contaminants, so long as the contaminants generally would not pose a threat to human health or the environment], and it turns out that this finding was actually a REC.

Must the subject release and the requisite determination of a de minimis condition be confined to only hazardous substances and petroleum products, versus its application to a broader class of “pollutant and contaminant?”

If one were to strictly follow the Nov. 1, 2005, 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries Final Rule, it would seem that the de minimis conditions concept may be applied to a broader class of constituents. The use of “contaminants” in lieu of hazardous substances and/or petroleum products appears to expand the sort of constituents of concern.

Keep in mind that within CERCLA Section 101 (33), the term “pollutant or contaminant” shall include, but not be limited to, any element, substance, compound or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring; except that the term “pollutant or contaminant” shall not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas).

So which releases are relevant?

Because AAI references the ASTM E 1527 Standard Practice as compliant, it would appear a safe assumption that when conducting a Phase I ESA in accordance with the ASTM Standard Practice, that the de minimis condition can be reserved for instances of small releases of hazardous substances to the environment on the property.

And, as for petroleum products and notwithstanding the existence of the petroleum exclusion, they are also included within the scope of E 1527 for several reasons. First, petroleum products have historically been widely used at commercial properties. Second, other federal and state laws may impose liability for releases or spills of petroleum products.

For example, petroleum products may become hazardous wastes when petroleum has spilled and cannot be reclaimed from soil. In addition, petroleum products released from underground storage tanks may be subject to corrective action under RCRA Subtitle I or comparable state laws. Spills to surface waters could also result in cleanup liability pursuant to the Oil Pollution Act of 1990 and the Clean Water Act. Finally, persons seeking to qualify for federal, state or local brownfield funding may be required to investigate potential petroleum releases as part of implementing this practice.

So what is the safe interpretation of the 2013 ASTM Standard Practice?

For all of the reasons stated above, the de minimis condition should be reserved for instances of small releases of hazardous substances and/or petroleum products to the environment on the property. These need to be identified as such within the ASTM-compliant Phase I report.

But how do we handle an old pile of metallic solid waste debris with rusting on the surface of the ground, when we believe that the result, for example, is the likely presence of elevated iron in groundwater? The answer, as you might suspect, is that it depends. National secondary drinking water regulations are typically nonenforceable guidelines regulating contaminants that may cause cosmetic effects, such as skin or tooth discoloration, or aesthetic effects, such as taste, odor or color, in drinking water.

EPA generally recommends secondary standards to water systems but does not require systems to comply. Thus, one might view this as a de minimis condition. However, states such as Florida have adopted them as enforceable standards and therefore the finding of a simple pile of solid waste, depending on your opinion and conclusions, could go all the way from a business environmental risk to a de minimis condition and, in Florida, to a REC if you believe that you have sufficient evidence of the likely presence of a release (past, current or material threat).

Thus, the de minimis condition concept should not be treated as inconsequential in its application as there are

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Florida Specifier

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

Calendar

February

FEB. 8-10 – Conference: Winter Waste Conference 2015, Sand Key, FL. Presented by the Florida Chapter of the Solid Waste Association of North America. Call (727) 940-3397 or visit www.swanafl.org.

FEB. 9-13 – 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.

FEB. 10-11 – Course: Sequencing Batch Reactor Operation, Make it Work for You – Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

FEB. 12 – Workshop: Air Quality Workshop: Taking care of Odor and Corrosion on Both Sides of the Fence, Tallahassee, FL. Presented by the Air Quality Committee of the Florida Water Environment Association. Contact Larry Hickey, FWEA Air Quality Committee Chair, at (352) 237-1869.

FEB. 12 – Seminar: Expanding the Reuse Pie: Experiences with Supplementation, Storage, Integration, Potable Reuse, Innovative Treatment, Expansion and More, Orlando, FL. Presented by the Florida Water Environment Association. Call (407) 574-3318 or visit www.fwea.org.

FEB. 13 – Course: Backflow Prevention Recertification Exam, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 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.

FEB. 16-19 – Conference: 2015 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Houston, TX. Sponsors include the U.S. Geological Survey, Gulf of Mexico Research Initiative, National Academy of Sciences and others. Call (228) 215-3597.

FEB. 17 – Course: Asbestos Refresher: Inspector – Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 17 – Course: Asbestos Refresher: Management Planner – Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 18 – Course: Asbestos Refresher: Contractor/Supervisor – Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 20 – Course: Backflow Prevention Recertification Review, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 21 – Course: Backflow Prevention Recertification Exam, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 23-26 – Course: Water Distribution Systems Operator Level 2&3 Training, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 24-27 – Course: Water Class C Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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ramifications associated with its presence or absence in the Phase I ESA report. It's not as simple as one might assume. EPs should remain sensitive to the use of the term and comfortable that it meets the definition as presented within ASTM. Meaning, you've got to have a CERCLA-defined release to the environment first, followed by the meeting of the applicable de minimis condition criteria.

If it does not meet the criteria, you may have a REC/CREC/HREC, or you may still have a business environmental risk and, depending on your client, such risk may or may not need to be incorporated into the executive summary, opinions or conclusions of your report.

Nick Albergo is a registered professional engineer and one of the authors of the ASTM E1527 Standard Practice for Environmental Site Assessments. He is also the ASTM E50.02 Vice Chair on Environmental Assessment, Risk Management and Corrective Action.

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

March

MAR. 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.

MAR. 2-6 – 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. 3 – 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. 3 – 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. 3-6 – 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. 4 – 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. 4-5 – Conference: 25th Annual Cross-Connection Control Conference, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

MAR. 7 – Course: Backflow Prevention Recertification Review, Bradenton, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7 – Course: Backflow Prevention Recertification Exam, Fort Myers, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

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

MAR. 9 – Course: Hazardous Waste Regulations for Generators, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 9-11 – Course: Water Distribution Systems Operator Level 1, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 10 – Exam: Backflow Prevention Recertification Exam, Altamonte Springs, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

MAR. 10 – Course: U.S. DOT Hazardous Materials/Waste Transportation, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 10 – Course: Initial Training Course for Spotters at Landfills, C&D Sites and Transfer Stations – 8 Hour, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 10 – Course: Refresher Training Course for Experienced Solid Waste Operators – 8 Hour, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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MAR. 10 – Course: Refresher Training Course for Experienced Solid Waste Operators – 4 Hour, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 10-11 – Workshop: Florida ADaPT 2-Day Training, Royal Palm Beach, FL. Presented by LDCFL Inc. Contact Cathy Katsikis at (561) 512-9956 or visit www.ldcfl.com.

MAR. 10-11 – Course: Initial Training Course for Transfer Station Operators and Material Recovery Facilities – 16 Hour, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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Fundamentals of Slope Stability and Settlement for Solid Waste Disposal Facilities

4/20-22/2015

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DWM
From Page 1
maintenance costs as recommended in the audit.

In addition, HSWCD was removed from the contract. More generally, in the future, DWM contracts will specify allowable general and administrative costs.

This issue and other corrections and procedural improvements enumerated in the report have either been completed or will be completed during the first half of 2015, according to the report.

Participation in the DWM Program begins when SFWMD staff identifies a po-

tentially suitable site for water storage using a computer-generated model to predict storage capacity based on rainfall and location.

The model used to date is relatively unsophisticated. The audit report recommended revision of the model to account for additional rainfall data, which will require additional rainfall measurements.

By the end of the year, the district will use the Potential Water Retention Model that was developed specifically for NE-PES projects to evaluate candidate sites and will refine it as needed.

Some revisions, according to the

auditor's report may need to take into account cascading basins, rainfall data and stakeholder concerns. Revisions of the model to estimate storage capacity should be finished by the end of 2015.

The auditor's report dealt extensively with two aspects of programs costs.

The first was the substantially greater cost of leasing private lands compared to using publicly owned land.

The second was that by 2018, based on funding apparent before the passage of Florida's Amendment 1 in November, the program appeared to be headed for a \$17 million cumulative shortfall between 2018 and 2024.

Since the auditor's report was submitted, the addition of seven more sites increased the total cost of the program going forward to \$134.5 million with a commensurate increase in potentially unfunded costs.

The difference between annual storage costs for the program on public lands and leased private lands is substantial—\$8.02 versus \$103.10. Initial capital costs on public and private lands are \$4.05 versus \$22.65, respectively.

The difference between recurring payments and operations are even greater—\$3.97 versus \$80.45 per year. These are summary numbers.

The auditor listed specific examples to make illustrative comparisons between costs on public and private land. A 10,000-acre-foot storage project on the Avon Park Air Force Range will cost an estimated one dollar per acre foot of storage per year over 50 years.

Leases of private lands or payments for environmental services are much greater.

The SFWMD will pay Willaway Cattle & Sod \$175 per acre-foot for water storage over 10 years. Alderman-Deloney Ranch and Dixie Ranch will each receive \$173 over 10 years per acre-foot of storage.

The range of costs illustrated in the report is from \$74 to \$175 per acre-foot over contracts of eight to 11 years.

The auditors also noted a stark difference between the cost the water management district pays to lease land for water storage and the lease costs SFWMD receives from tenants for uses such as cattle grazing.

The auditors concluded with the strong recommendation that public lands receive a priority for further WMD program sites. The district, however, manages its public lands for multiple purposes, only one of which may include the DWM Program.

An accurate evaluation of cost should recognize that not every acre of land in South Florida is equally

useful for water storage.

SFWMD identifies sites that have favorable topography and soil characteristics, and requests lease bids from the owners. Furthermore, the water management district can end any lease with a 30-day notice.

In spite of some of the findings in the auditor's report, the Florida Legislature has funded it generously and the WMD has expanded it.

Randy Smith, spokesperson for the district, said they like the program because it is cost-effective, can be implemented quickly and leaves land in private ownership.

"We're very comfortable we have a sound program," he said.

Is the DWM Program hurting local governments?

The SFWMD is expanding its Dispersed Water Management Program and the Florida Legislature is funding the expansion, at least in part, implying satisfaction with it.

However, some local government officials are not so happy with the program.

They say that land taken for use to store and treat water can hurt local governments in the state's interior counties where the water is stored, while coastal counties reap the benefits without having to take any action.

Interior counties could collect additional taxes on private lands in the DWM Program. Lease income for water storage is typically more than an order of magnitude greater than income from leasing the land for cattle grazing, for example.

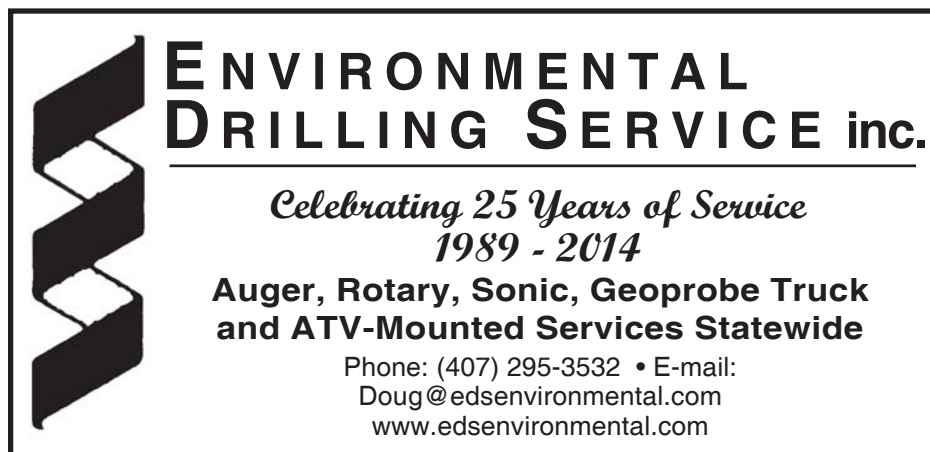
The Florida Ranchlands Environmental Services Project notes on its website that leasing land for water storage "creates a new ranch profit center." The DWM program creates a

TAXES
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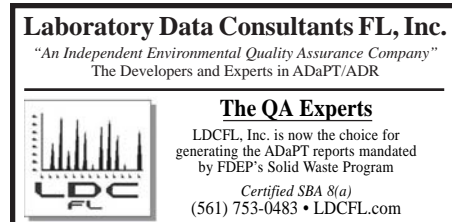
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Research shows that reef corals may have resistance to ocean acidification

By ROY LAUGHLIN

A small but growing body of research suggests that a fraction of individuals in populations of reef-forming corals—ones that secrete calcium carbonate skeletons—have the ability to resist increasingly acidic seawater.

In experiments, a small number of experimental subjects in acidified seawater survive, implying resistance to acidic conditions.

That conclusion comes from research conducted over the past decade at the University of Miami by researchers led by Professor Chris Langdon in the Department of Marine Biology and Ecology at the Rosenstiel School of Marine and Atmospheric Sciences.

The research spans a decade and involves numerous replications and perhaps as many as 20 hard coral species.

"Maybe 15 or 20 species globally, from branching to massives, seem to have a general response" that confers resistance to ocean acidification, Langdon said.

The good news, according to Langdon, is that natural selection, favoring survival and reproduction of acid-resistant individuals over the long term, could allow survival of reef-forming corals.

For calcification to occur in corals, maintaining the alkalinity of a layer of fluid over the mineralized portion of coral is essential. Active transport of hydrogen ions from the fluid maintains its alkalinity, according to Langdon.

Researchers in Monaco found that the alkalinity of this thin layer of fluid over a coral skeleton fell with increasing hydrogen ion concentration of seawater. Apparently, active pumping of hydrogen ions to maintain alkaline conditions is less effective as environmental acidity increases.

A body of recent research shows that what seems like a small increase in ocean acidity reduces the ability of animals and plants to maintain alkaline conditions in their tissues necessary for calcification, reflecting similar calcification methods and requirements over many phyla.

In the past century, the ocean's average pH has dropped from of about 8.15 to slightly below 8. Langdon said this represents an acidity increase of about 26 percent.

More than half of that acidification increase has occurred over the past two decades. Acidity is increasing due to increased CO2 in the atmosphere from fossil fuel burning. CO2 dissolves into the ocean's surface waters, increasing pH by forming carbonic acid.

Langdon was quick to qualify his inference that resistant corals might be subjects of natural selection. He noted that CO2 concentrations in surface waters of the world's oceans are increasing at a faster rate, 10 to 100 times faster. By the end of this century, if current trends continue, ocean pH might decrease to 7.7 - 7.8.

CORAL
Continued on Page 13

Corps of Engineers signs off on Central Everglades Planning Project

Staff report

After many delays, a U.S. Army Corps of Engineers Chief's Report approving the Central Everglades Planning Project is on its way to Congress, an essential step in the process toward receiving federal funding.

The plan outlines engineering and construction budgets for projects that will treat and divert about 14 percent of Lake Okeechobee's water—about 65 billion gallons—south through the Everglades.

When completed, the project is expected to substantially reduce the number of water diversions through the St. Lucie and Caloosahatchee rivers.

Proponents of the plan had hoped the report would be sent to Congress in time to be approved and included in last year's Water Resources Development Act.

But at the last minute, the corps' Civil

Works Review Board declined to approve the CEPP report because of inadequate cost-sharing provisions with the state of Florida.

The expected cost of the project is currently \$1.9 billion. About half of that would come from the federal government and would depend on two more steps.

The first is congressional approval of the project.

The second is funding legislation, most likely through the WRDA, which is reauthorized at no less than two-year intervals. Next year is the earliest the project could be funded through WRDA.

Rep. Patrick Murphy, D, Jupiter, has been a leading congressional proponent of federal efforts to improve water quality in the Indian River Lagoon and its tributaries.

He introduced an amendment during the WRDA approval process last year that

lizes sunlight, corals must depend on stored reserves such as lipids or change to heterotrophy to catch organisms from the water, like sea anemones or jelly fish.

Coral calcification will generally be influenced by higher temperatures, and likely that influence will be detrimental.

Life has adapted to adverse conditions over surprisingly short time intervals when some resistance in the population can be acted on by natural selection. It has occurred routinely in the past seventy years. Examples include pesticide resistance in insects and antibiotic resistance in bacteria.

Natural selection is not a completely reliable mechanism, however. In the case

of corals, increasing atmospheric CO₂ is rapidly acidifying seawater and increasing its temperatures worldwide, so marine organisms will have to adjust to both stresses simultaneously.

If reefs present today are to survive in their present form, then the corals alive today will have to stay alive beyond this century.

For the first time in human history, the persistence of coral reefs is not a certainty. CO₂ from burning fossil fuels is one of the biggest threats because it's degrading coral habitat in multiple ways.

characteristic so that they are subject to RCRA.

The handling of solid waste produced by phosphate mining and refining presents a significant waste challenge. For each ton of phosphate extracted from phosphate ore, approximately 4.5 tons of gypstack waste is produced.

According to the Sierra Club, about 30 million tons of phosphate extraction solid waste is produced each year in Florida. The total amount of solid waste is 800 million to one billion tons. In some cases, substantial amounts of dolomite are also removed from phosphate ore before beneficiation.

The largest gypstacks may be as high as 200 feet and cover several hundred acres. They contain a gypsum slurry, surrounded by a dike. Many are unlined, allowing acidic water and contaminants to seep into groundwater.

A spokesperson for Mosaic contacted for this story would not comment on the status of the EPA negotiations but noted that the RCRA negotiations do not involve phosphate mining operations.

Mosaic officials, according to their SEC filings, seek a long-term settlement with acceptable financial terms that will satisfy regulatory agencies' oversight responsibility for one of Florida's most abundant solid wastes that requires long-term management.

would have provided congressional authorization when the ACOE issued its Chief's Report approving the CEPP.

That amendment was not included in WRDA, but Murphy said that he will reintroduce it this year.

Once authorized, funding approval is likely. Assuming federal funding becomes available in the next couple years, state funding remains difficult to predict.

Other projects currently have higher priorities.

One of those priorities is the C-44 Canal Reservoir and Stormwater Treatment Area near Indiantown that will benefit the Indian River Lagoon's water quality.

It may be a few more years before the CEPP begins construction, but the corps' recent approval represents a major milestone in the process toward construction.

CORAL

From Page 12

It is uncertain that resistance possessed by approximately 10 percent of a coral population can, in future generations, be spread through the population level by reproduction and natural selection fast enough to maintain viable populations, much less a reef ecosystem.

His research is good news to the extent that hard coral extinction due to ocean acidification is not destiny, even if hard times are ahead in the near term for these organisms and coral reef ecosystems.

In a recent interview, he noted that many other environmental conditions influence the ability

to maintain calcification under decreasing pH conditions. Coral bleaching is another phenomenon he has researched carefully, particularly last summer.

Warmer than usual seawater led to extensive coral bleaching in the Florida Keys. Coral bleaching occurs when high temperatures kill symbiotic algae in coral tissues. Those photosynthetic symbiotic flagellates are a major nutrition source for healthy coral.

Calcification, as a component of active metabolism, depends on adequate energy. When symbiosis fails as a source that uti-

Climate change threats

Environmental groups have lobbied to have reef corals listed as a threatened or endangered species because of climate change effects.

A team of researchers recently used the term "marine defaunation" to describe human activities that cause loss of oceanic animals.

The researchers noted that so far, complete extinctions due to human activity has occurred much less in the ocean than on land. But they conclude that habitat destruction will play a dominant role in the next 150 years. And nothing will change the ocean habitat over that time more than CO₂'s influence on its temperature and acidity.

MOSAIC

From Page 1

reported to be in a critical phase that may lead to a resolution allowing Mosaic to settle the charges without going to court and under financial terms that it can manage over the next 30 years.

Mosaic's quarterly report states that future capital expenditures for compliance could exceed \$150 million over the next few years. Mosaic's filing provided an even larger liability value for closure costs and post-closure care for gypstacks—\$465 million, based on current costs.

To meet those liabilities, Mosaic proposed to create a pre-funded trust account of \$625 million. By law, Mosaic is responsible for 30 years of post-closure monitoring and maintenance at its gypstack operations in Florida.

The company said that the trust fund would substantially underwrite its financial assurance obligations.

The Bevill Amendment to RCRA exempts residual mining materials and about 20 specific substances from regulation under RCRA as hazardous wastes. This includes gypsum and highly acidic process water from regulation.

However, other substances in gypstacks and process water that result from phosphate mining and beneficiation make the solid wastes exhibit a hazardous waste

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EPA closes the book on another year of enforcement actions

By ROY LAUGHLIN

The U.S. Environmental Protection Agency completed another year of high visibility, high impact enforcement efforts.

"High impact efforts," according to the agency, are those that yield high benefits in protecting communities and level the playing field for companies that comply voluntarily with regulations.

That is the primary theme of the agency's recently released annual environmental enforcement results.

The EPA's efforts yielded both financial settlements through fines and penal-

ties, as well as agreements for corporate-wide compliance programs that reduce or eliminate pollution.

EPA's criminal program procured \$63 million in fines and restitution, and secured \$16 million in court-ordered environmental projects.

The cost of a criminal conviction can be quite high for a defendant.

For example, Tonawanda Coke, found guilty of releasing benzene from a plant in New York, was sentenced to pay \$12.5 million in criminal penalties and to fund \$12.2 million in community services.

Jail time for defendants, although somewhat rare, equaled a combined 155

years of incarceration.

In terms of dollars, EPA said that its enforcement actions led to companies investing more than \$9.7 billion into efforts and equipment to control pollution and cleanup contaminated sites.

In total dollar terms, EPA's efforts yielded \$163 million in combined administrative and civil penalties, and criminal fines.

The settlements will result in more than \$453.7 million in efforts to clean up Superfund sites.

In addition, \$57.7 million will be returned to the Superfund Trust Fund from responsible parties.

EPA highlighted two cases that it said would drive compliance across industries.

Lowes Home Centers will institute a corporate-wide compliance program to ensure contractors follow laws that protect children from lead paint exposure during building renovation.

In addition, Chesapeake Appalachia, the second-largest natural gas producer in the country, agreed to restore streams and wetlands it damaged and to follow a comprehensive plan for compliance with water protection laws.

The EPA's compliance efforts usually target private sector industries. However this year, the EPA announced compliance efforts with public sector entities as well.

East Bay Municipal Utility District, CA; Metropolitan Water Reclamation District, IL; and Miami-Dade County were all parties in efforts to reduce discharges of raw sewage and contaminated stormwater.

In addition, the agency is working with the U.S. Army to ensure cleanup of an abandoned munitions facility at Camp Minden in Louisiana.

In terms of pollutant statistics, the agency said that its enforcement actions prevented the release of 141 million pounds of air pollutants, including 6.7 million

pounds of air toxics.

Enforcement actions were estimated to have reduced water pollutants by 337 million pounds and led to the cleanup of 856 million cubic yards of contaminated water and aquifers.

The EPA broke down its enforcement results to the regional level. Region 4, which includes Florida, was at the top of the list for enforcement actions.

EPA Region 4 concluded 360 enforcement cases and initiated 367. Region 4 led the next closest region, Region 5, by about 40 cases in both categories.

The EPA is poised to continue its enforcement actions, in spite of the prospect of increasing congressional interference from hostile Republicans who now have majorities in both houses of Congress.

in Genoa, Italy, pled guilty to three counts of violating the Act to Prevent Pollution from Ships.

The charges claimed the deliberate concealment through falsified entries in the vessel's M/T Marigola's oil record book. The tanker docked in Tampa on three occasions in 2013 and 2014 with falsified records.

Carbofin agreed to pay a \$2.75 million criminal penalty, with \$600,000 of it designated to support protection and preservation of natural resources in the Florida Keys National Marine Sanctuary.

Alessandro Messore, the Marigola's second engineer, pled guilty to one count of violating the Act to Prevent Pollution from Ships. Carmelo Giano, the Marigola's chief engineer, was also expected to enter a guilty plea over the charges.

EPA bans chemicals from consumer products. In December, EPA used the Significant New Use Rule under the Toxic Substances Control Act to restrict most uses of several chemicals.

The EPA banned most uses of benzidine-based chemical substances. These are used as dyes in textiles, paints and inks. They are converted in the human body to a chemical known to cause cancer.

The EPA banned most uses of Di-n-pentyl phthalate, used in polyvinyl chloride. DnPP has been shown to cause developmental and reproductive effects in laboratory animals.

The agency also banned alkanes C12-13 chloro, a chlorinated paraffin used as an industrial lubricant. These chemicals are persistent, bioaccumulative and toxic to aquatic organisms at low concentrations.

As a result of the EPA's recent action, anyone wishing to manufacture, import or process any of these chemicals must notify EPA 90 days before starting or resuming their use.

The EPA will have the opportunity to evaluate the intended use, and may take action to prohibit or limit it.

The EPA is further evaluating related medium-chain and long-chain chlorinated paraffins as part of the TSCA Workplan for Chemical Assessments. The agency also added several phthalates to the TSCA workplan.

Officials said that if the workplan assessment indicates potential risk for any of these other phthalates, they may evaluate and require risk reduction actions for their use.



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Italian shipping firm fined. In December, the U.S. Department of Justice, the Natural Resources Division of the U.S. Attorneys Office for the Middle District of Florida and the U.S. Coast Guard issued fines and penalties against an Italian shipping company because it falsified the ship's documents to hide illegal discharges of oil-contaminated waste on multiple occasions.

Carbofin SPA, a shipping firm based

Groveland installs dewatering unit at Sampey Road facility

By **BLANCHE HARDY, PG**

This past summer, city commissioners in Groveland approved the installation of a sludge dewatering unit at their Sampey Road Wastewater Treatment Plant.

Earlier this winter, the dewatering unit became operational.

The dewatering takes place in a large roll-off vessel where sludge is mixed with a polymer that acts as a coagulant. The liquids are subsequently separated from the solids.

The resulting unbound liquid is drawn from the dewatering unit and sent to the wastewater treatment plant where it is treated to reclaimed quality water standards to be used for irrigation purposes.

"This lessens the use of potable water by our (irrigation) customers," said Jamie Huish, public works director for the city.

The supplemental water supply may also help to balance reclaimed water distribution within the city's overall service area.

In addition to the environmental benefit of potable water conservation, Huish said the resulting solids are now being transported to a waste disposal site where they are converted into a fertilizer product.

The city may someday expand its system to produce fertilizer in-house that can be used for city projects as well as sold to local consumers.

City staff played an active role in planning and installing the system.

The preliminary site preparation including design and installation of equipment pads and piping were completed by city staff.

Huish said the system has a number of ancillary benefits, such as being relatively easy to operate and having very little to no odor.

The cost of the dewatering unit was approximately \$65,000.

According to the information provided to the city commission during the system's initial presentation last June, maintenance will be limited to servicing the system's chemical pump and greasing the interior

of the roll-off vessel that will be cleaned between uses.

The polymer required to operate the system is projected to cost roughly \$800 annually.

In addition to the relatively low cost and ease of installation and maintenance of the dewatering unit, the city anticipates the system will favorably reduce their current sludge disposal costs.

"The hauling and disposal of dewatered biosolids reduces the city's hauling costs by approximately \$60,000 annually," Huish said.

Sludge disposal has cost Groveland approximately \$90,000 annually in the past.

The dewatered solid generated by the new system is projected to cost an average \$18,000 in hauling fees per year.

The transportation savings could allow the city to pay off their initial investment in the system in less than a year.

City staff visited other municipalities around the state using sludge dewatering units in order to assess the viability of currently operating systems before making their recommendation last summer.

Among the units evaluated, the system from Patrick Anthony Technologies LLC was determined to be the best alternative for the city.

The Mount Dora-based company has installed roughly 60 similar systems throughout the state.

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For more information on the positions please visit:
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TAXES

Continued on Page 12

new product—water management services.

The sale of the services is a new revenue source for ranching operations. Some said that the extra revenue should increase the level of ad valorem taxes paid to local governments by the ranches.

In 2014, the Florida Legislature passed Florida Statute 193.461 specifying that land in the Dispersed Water Management Program be assessed as nonproductive agricultural land and setting the de minimis appraisal for this land at \$50 per acre.

Appraisers in two South Florida counties with DWM Program sites said they were not increasing appraisals of land in the program; one specifically cited 193.461 as the reason.

A recent opinion piece in the *Palm Beach Post* pointed out that the largest single lessor in the DWM Program is Alico Inc., which leased 35,000 acres of land in Hendry County beginning last December to the SFWMD for storage of about 92,000 acre-feet of water.

The SFWMD estimates its ten-year contract with Alico will cost \$12 million per year, and total over \$120 million over the life of the contract.

Clearly land owners, some of whom are well connected politically, enjoy substantial financial benefits in leases to the DWM Program, but FS 193.461 now prevents local governments from fairly taxing those profits.

Those who say water storage hurts local government agencies supported by ad valorem taxes may be right. Money that otherwise could be raised in taxes for public uses is diverted to private company profits.

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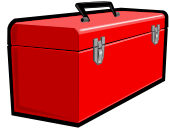
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Cobb named as DEP deputy secretary

Florida Department of Environmental Protection Secretary Jon Steverson appointed Paula Cobb as deputy secretary for regulatory programs.

Cobb, most recently director of the Division of Air Resource Management, will supervise the regulatory districts of the

MANATEES

From Page 9
ergy. “We would like to allow the manatees to choose to interact or not,” she said.

Sykes noted that manatees surface while sleeping to breathe. People unfamiliar with their behavior may mistake this action as an indication the manatee is surfacing to interact or accept petting, neither of which is typical of manatee behavior.

Very few manatees are acclimated to human physical attention.

Additional proposed management measures include installing vessel tie-ups outside the actual spring head and spring run area; prohibiting vessels from entering those areas; confining access to the western area of the spring run to allow for manatee safe passage; creating “no public access” areas; limiting access hours to allow the manatees to rest comfortably during the most cold hours of the day; and requiring special use permits for potentially intrusive activities such as flash photography.

state divisions of air, water and waste. Her appointment was effective Jan. 5.

“Paula’s strong command of business and regulatory frameworks and her commitment to excellence make her an ideal candidate for this position,” Steverson wrote in a statement. “Her knowledge and experience will be a valuable asset throughout all of our regulatory programs.”

Cobb previously served as the division’s deputy director and, before that, was program administrator for its Office of Business and Regulatory Planning.

As air pollution in Florida continues to decline, Cobb will help oversee one of the most comprehensive air quality monitoring networks in the nation.

Cobb specialized in environmental law and policy at the University of South Carolina, University of South Carolina School of Law and Vermont Law School. Prior to joining the DEP, she practiced environmental and administrative law.

NOTES

From Page 3

Water Management District, was selected to serve as a technical advisor to the Florida Farm Bureau’s Water & Natural Resources Advisory Committee for a one-year term.

Craig is a professional soil scientist certified through the American Registry of Certified Professionals in Agronomy Crops and Soils, and has 20 years of professional experience in agriculture, environmental science and environmental regulation.

Rachel Silverstein has been appointed as the new Waterkeeper and executive director of Miami-based Biscayne Bay Waterkeeper. The organization advocates for Biscayne Bay, its watershed and its wildlife.

1000 Friends of Florida has chosen Ryan Smart as its new leader. Smart previously managed the Florida Conservation Coalition working on springs protection and water conservation issues.

Max McGahan, EI, was appointed staff engineer by Professional Service Industries Inc. in its Orlando office. PSI also promoted Darek Brandt, PE, to regional engineer in its Orlando office.

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