

# ecoletter

SUMMER 2009 ISSUE

Sailboat photo courtesy of Charlie Reichert

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# PRESIDENT'S MESSAGE



## WWOA President

—Duane McCoy

**W**elcome WWOA members! The time has come for our annual conference and I hope you will join us for the co-conference of WWOA and CWEA 2009. This year's conference will feature a variety of

events to include the following: vendors, new technology, classes with CEU credits, eight teams participating in the Operation Challenge competition, and a host of water and wastewater professionals. I'm looking forward to the 2009 conference where I will meet and greet you as we build our organization together and overcome any challenges and obstacles we encounter this coming year.

My slogan is, "Water and Wastewater Professionals are a Terrible Thing to Waste" and my job and goal as

President is to use every possible means to help our members be successful with the training we provide. I would like to commend our short course staff and WWOA members who put in a lot of hard work and dedication to make this year's 2009 short course a great success. We hope this training will bridge any gap that may occur between employer provided training and the requirements to keep your license current and/or upgrade your certification. Providing this bridge will help you to be all you can be and ultimately pay off as we move forward into the 21 century.

As far as our membership, we have reached the 700 club with each member having a vote and a voice in making our organization strong and determining what direction we take as we move into the 21st century. To help determine our direction we need to get fresh ideas and the creativity flowing. Have a forum with your trustee's and brainstorm and come up with some ideas to help make us better and to serve you better.



## CWEA President

—Aaron Nelson

**I**n my previous message I discussed our continued talks regarding a combined quarterly publication. As a follow up to that message I would like to highlight some additional positive teaming

efforts between our joint organizations CWEA/WWOA and CSAWWA. Since my last article, on May 14 in fact, our organizations teamed together and held a heavily attended event at the Maritime Institute in Linthicum, MD. Approximately 180 people attended this event which combined our Annual Spring Meeting with the Water Reuse Seminar. While most of the comments from attendees were positive, we did receive one complaint about having "too many good papers," resulting in analysis paralysis when trying to decide which one to attend. While we feel this effort was an overwhelming success, we will take this comment into consideration during planning of future similar information packed events.

The success of this event also brings to mind last years Tri Association Conference which was held at the Convention Center in Ocean City. This I believe was a milestone in the history of the growth of our organization and also signified that the movement towards unified coordination between wastewater and water professionals in the Chesapeake area is supported by our membership. As we planned that event we worried about losing the interest of regular conference attendees and ven-

dors who were accustomed to immediate hotel room access, or those who might reject the change in environment to instead stay in familiar territory. In spite of those fears, last years Tri Association Conference proved that our membership appreciates the combination and convenience of "One Stop Shopping" for the technical information that our organizations strive to deliver.

As we near this year's Annual CWEA/WWOA Joint Conference at the Clarion Fontainebleau Ocean City, MD we are again seeing indications, as we did in 2007, that our growth may soon dictate the future location of our events. I say this after hearing a conference planning update that our technical program is packed solid and our exhibit space is almost sold out once again. In light of our struggling economy it appears that we will have yet another successful event. As we look ahead however this type of positive turn out and response may also mark this as one of the last times that we will be able to effectively hold our Annual Conference at smaller conference facilities.

Since I am on the topic of Annual conferences, I must also share the news about future Tri Association conferences. We, CWEA/WWOA and CSAWWA, have agreed that combining our efforts during annual functions was beneficial to our membership and the growth of our organizations. However, in the past the organizations held tightly to their respective individualities and agreed to only unit once every two to three years. The continual success track record of successful Tri Association Conferences makes one wonder "Why aren't these Annual events?" Well the news I have to report is that this happen as soon as 2011 based on the recent conversations between the  
*Continued on page 33*

# ecoletter

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## CALENDAR OF EVENTS Summer/Fall

**September 1–4, 2009**

CWEA/WWOA Joint Conference  
Clarion Fontainebleau, Ocean City, MD

**October 10–14, 2009**

WEFTEC 2009  
Orlando, Florida

[www.wwoa-cwea.org](http://www.wwoa-cwea.org)

## TO ALL MEMBERS:

**When completing membership renewals, make sure all information is correct and current. We use WMBA (WEF Membership By Access) for membership information. If there is an e-mail address, please include it.**

## CHANGE OF ADDRESS

*Please forward your change of address and membership number to the appropriate organization:*

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# EDITOR'S CORNER

It all started in 1962 when some pet Mute Swans escaped their pen in Talbot County. Thirty some odd years later these pets became a 4,000 strong invading army of large hungry birds capable of eating several pounds of submerged aquatic vegetation every day. Mute Swans, not to be confused with native, migratory Tundra Swans, and like resident Canada Geese, never leave. But that could change now that the Maryland Mute Swan Committee has gotten their way. After measures were taken to reduce the swan's population to 500, they recommended completing the job and eradicating Mute Swans from Maryland. Over complaints from animal rights groups who said the population is low enough, the Maryland DNR Secretary decided to implement the committee's recommendation. The secretary noted that Mute Swans are one of the six invasive species that most threaten the Chesapeake Bay ecosystem. For more on invasive species see an article elsewhere in this issue.

•••••

The 25 MGD Little Patuxent WWTP has embarked on a three year, 100 million dollar ENR upgrade. Effluent nitrogen will be reduced from 3,900 ppd to 830 ppd and there will be an 85% reduction in phosphorus. An interesting feature of this project is the integration of the waste stream from a large ice cream plant into the nutrient removal process. Since opening thirty seven years ago, this will be the seventh and largest plant upgrade.

•••••

It used to be you could eat as much striped bass as you wanted. It used to be you were supposed to restrict consumption of Chesapeake Bay caught, but not ocean caught bass. It used to be. Both Maryland and Delaware, joining other northeastern states, now advise restrictions on eating ocean caught striped bass. Mothers, soon to be mothers and children less than seven should not eat any striped bass and others should not eat more than one meal of bass a month. Delaware even goes further and recommends no more than two meals of striped bass a year. The culprit is accumulation of PCB and Mercury in fish tissues. PCB, while banned still persists in the environment, and Mercury not only persists but continues to be emitted by coal burning plants.

•••••

To help reduce nutrient runoff and soil erosion from farm fields, Maryland will pay farmers to plant fall cover crops this year. For non-harvested crops, either \$40 or \$85/acre will be provided, and \$25/acre for harvested crops. The cover crops will be cereal grains such as rye, wheat, barley and oats. Without crops to take up applied nutrients soils can leech the excess during spring runoff season and discharge it to the Bay.

•••••

Bernie Fowler's 22nd annual Patuxent Wade-in in mid-June had a result about the same as last year when he lost sight of his sneakers in 26 inches of water. What was different from last year was Mr. Fowler's mood. This year he expressed hearty optimism that new initiatives by federal and state governments will make positive changes in water quality. That an 85 year old man is still fighting for a better river and Bay should give us all something to think about.

•••••

A recent gathering of the Chesapeake's political leaders known as The Executive Council yielded a different tact in setting improvement goals. Saying that setting goals decades in advance was like "A ladder without rungs," they set short-term nutrient reduction goals. These goals committed the leaders to removing an additional 6.9 million pounds of nitrogen and 464,000 pounds of phosphorus over previously set goals. The report showing how these goals would be met was full of details and for that they must be given credit. We found the following information a good summary. (See chart, page 34.)

Three numbers jump out at you. Maryland's nitrogen and phosphorus contributions are 50% higher than the size of its watershed and Virginia's phosphorus contribution is considerably higher than its watershed component and almost half of all phosphorus going to the Bay. Fortunately these two states will spend the lion's share of the money reducing nutrients in the next three years. Of the total 2.357 billion dollars committed, Virginia plans to spend 1.195 billion and Maryland will contribute 774 million. Virginia's money will mostly come from two state funding sources and the bulk of Maryland's revenue will come from the Bay Restoration Fund. *Continued on page 34*

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# Students Lend Support For Regional Water Quality Improvement

—By Paul Hlavinka, PMP, EIT

Members of WEF are familiar with the challenges faced in improving water quality in our watersheds. Storm water has been a particular challenge in the Anacostia watershed due to the amount of runoff caused by the urbanization of the region and resulting sewer overflows. Funding and community awareness for implementing projects are the largest challenges faced today in addressing storm water treatment. To help address these issues, AWWA members welcome the efforts of students who are willing to take on the challenge and to make a difference.

In fact a large number of students are looking to make such a difference. The Engineers Without Borders (EWB) Chapter at University of Maryland—College Park (UMD-CP) already had ongoing student projects in Ethiopia, Burkina Faso and Peru. Why add a local project? Part of the thinking behind this evolved when student EWB president Phil Hannam, faculty advisor Dr. Deborah Gooding and others in the student EWB organization considered the immense number of student requests to get more involved. Meetings of the chapter exceeded 100 students and faculty. A local project seemed to be a good way to build on the student enthusiasm and to provide them with the skills needed for future projects.

Civil Engineering students Kristen Markham and Ethan Schaler volunteered to lead the local project and faculty member Kevin Calabro agreed to help provide guidance. The students are learning about the efforts to improve water quality by treating surface water runoff through best management practices as part of their curriculum. It was decided that a good fit for a local project would be a bioretention facility in the Anacostia watershed. The student chapter body was ready to serve.

The Anacostia Watershed encompasses 176 square miles of land in Prince George's and Montgomery

County, MD and part of Washington, DC. Its approximately 8 miles of tributaries make up one of 10 sub-watersheds that drain into the Chesapeake Bay in Maryland. Of the 10 sub-watersheds, the Anacostia Watershed is the most densely populated and the most polluted. A combination of non-point source pollution from road, parking lot and other impervious surface runoff along with the combined sewer overflows during high volume rain events make this watershed unsafe for swimming and nearly uninhabitable for fish and other wildlife. Many organizations are working towards improving its health and restoring it to a healthy ecosystem, but much needs to be done before this can be achieved.

The newly formed local EWB team understood the need to develop partners that could help with the effort. They were supported by the Chesapeake EWB Professional Chapter which provided assistance from Beth Blair and Brian Houston, two professional engineers who work with wastewater management at Black & Veatch. The students also reached out to Anacostia Watershed Restoration Partnership and Prince George's County—Department of Environmental Resources (PGDER) for support.

## FINDING THE RIGHT SITE.

The Anacostia Watershed Restoration Partnership provided EWB-UMCP with introductions to local officials. It was also instrumental in kicking off the project assessment process. They set up the initial meetings with mayors and their staff in Edmonston and Hyattsville, Maryland. With assistance from the partnership and local officials, the group identified 7 potential sites. These ranged from a proposed dog park, to playgrounds and soccer fields with drainage problems. PGDER promised to help the chapter with the design and implementation of the bioretention facility. The team took advantage of their help immediately by asking for assistance in choosing the best facility. The selection criteria involved locating a site with significant impervious surfaces, and area available for the facility. It was also important to identify a property which would be sized for the students estimated budget of approximately \$10,000.

The final selection was located in the city of Edmonston. The selected site would require construction of a bioretention facility that would receive the storm water runoff from a Community Center and the adjacent parking lot in Tanglewood Park in Edmonston, Maryland. Mr. Schaler and Ms. Markham had met with the city's mayor and received a very positive promise to help coordinate community involvement when they constructed the bioretention facility. Edmonston promised to maintain



UMD Students Having Fun at Selected Site



Visit to Local Site in Edmonston

the new bioretention facility according to a manual of maintenance the chapter would provide to them.

## DESIGNING THE BIORETENTION FACILITY

At one of the first meetings, the group of approximately 25 volunteers was broken down into subgroups: Site Design, Construction, Landscaping, Logistics and Fundraising. The students ranged from freshman to those taking their masters, and from various disciplines. Each group was dependent on a good flow of communications and coordination from the leaders.

The design of the facility became a very interactive learning process for the students. The site design team dove into the Prince George's County Bioretention manual and began formalizing the design. The project was broken up into phases, and the initial 30% design deadline was critical in meeting the aggressive end date. The team struggled with several potential locations of the facility and whether to use an infiltration to groundwater model, or a filtration model to filter the runoff and return it to the surface water. The filtration model was ultimately chosen based on the site having standing water and significant amounts of clay with poor infiltration.

The design team initially sized the facility based on very conservative standards. The design team took advantage of their relationship with the PGDER by meeting with the county's engineers to go through their design assumptions. The outcome was a streamlined approach, accounting for the first inch of anticipated



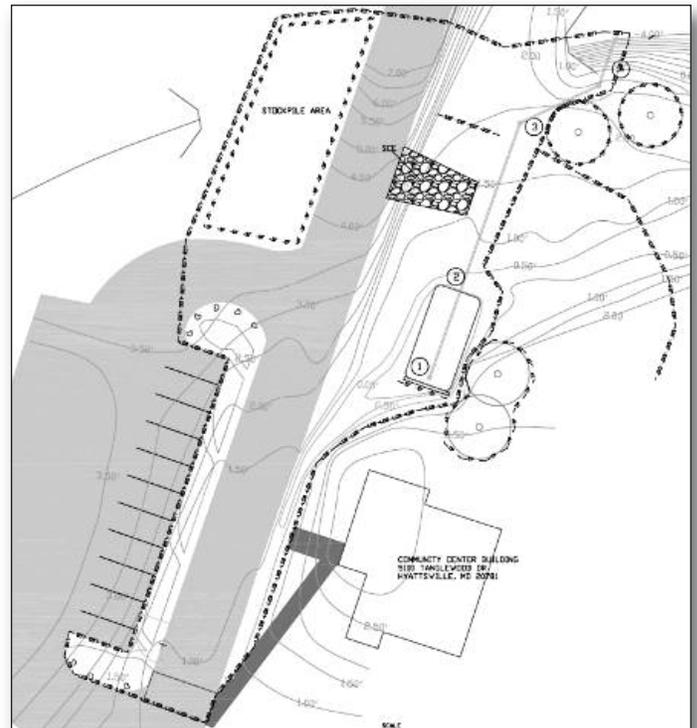
Students Learning Surveying Skills

runoff from a storm event. This first inch would carry a majority of the pollutants of concern. They also met with Dr. Allen Davis of UMD to tap into his extensive background in bioretention.

During this phase the students learned how to use surveying equipment and AutoCAD to create the documents required for county approval. Although PGDER had promised to help expedite this process if necessary in order for EWB-UMCP to meet its current projected project deadlines and implementation, significant work was still required by the team to create the drawings for submission. There were many days, nights, and weekends spent creating the documents. The group made extensive use of the collaboration tools available through Google for storing and sharing these documents. Ultimately the 30% design was submitted on time, and the final 100% design was approved by the county.

## PLANNING FOR CONSTRUCTION

The construction and logistics teams were working on parallel efforts to move this project to the construction phase. The construction team worked on identifying the materials required and finding sources for them. They also setup a time line for getting materials and manpower to site. These teams would finally oversee the actual construction of the project. PGDER was willing to provide support of heavy equipment if needed and/or contractor support to complete activities that the chapter was not qualified to do without OSHA training. Contractors would be used with oversight from the students.



Location for Materials for Construction Phase

Continued on page 10

# Students Lend Support

Continued from page 9

## FUNDING THE PROJECT

Even the best ideas cannot get underway without funding. The chapter was successful in receiving a grant from the Student Government Association; however, it was not enough to start the project. The team leaders applied for additional grants through organizations such as the Chesapeake Bay Trust and the EPA. Just weeks before construction, they received a grant from the Chesapeake Bay Trust. The remaining necessary funds would come through EWB-UMCP or donations from suppliers. The group requested donations of tools and were able to take advantage of the university engineering department's tool stock as well. With funding in order, the team was ready to begin the final phase.

## CONSTRUCTION AND COMMUNITY INVOLVEMENT

During the design phase, there were many curious neighbors stopping by to talk to the students. This was an excellent informal way to involve community members in the project. The group also sent students to a community event where rain barrels were being given away where they were allowed to make a presentation on the planned project. The chapter also sent team members to local schools to present the concepts of water treatment to students. Edmonston already had several projects underway to make it a green community, and so the community was very receptive to the project.

Since students provided the manpower and oversight to finish the job, the construction was timed to start right after finals. The construction was accomplished with the assistance of Environmental Quality Resources, LLC. They provided the heavy gear and operators that the students needed to complete the project. This phase involved the site excavation, placing an underdrain, addition of the layered bioretention materials and grading of the property to provide for the proper drainage to the facility.



Getting Ready for Community Event

During the final days of the project, the group held a community event. It was important for EWB to bring the community together for a common cause. At this event interested citizens were invited to set out plants in the bio-retention facility and learn about how the technology works and can be replicated elsewhere. As a result of the community event, more community members are now aware of this technology and what it is doing to help improve their environment and decrease likelihood of floods.



Markham, Shaler and Calabro at Project Site

## SUMMARY

The positive impacts of this project are numerous. First, the storm water coming from the parking lot and community center will no longer be sending pollutant-filled water directly into the Anacostia River. The water will instead be filtered, eliminating many of the pollutants and improving water quality. Secondly, the flash flood effect that result from rain storms on land with a high percentage of impervious surfaces would be lessened. Some of the storm water in Edmonston would be directed to the bioretention facility first, which effectively absorbs the water and decreases its velocity, resulting in a positive and sustainable effect on the health of the river. And lastly, the community awareness of the benefits of bioretention would benefit future efforts by this group and others interested in lessening the impact of our urban environment.

This story is more than a story of students trying to make a difference. It is about students becoming the teachers, and giving us all a challenge to do more with the resources we have. It is a challenge for us all to consider projects that benefit our communities and make a difference in our world. As Ms. Markham said to her volunteers "Thanks a million to all who have been so dedicated to making this project happen." Ms. Markham & Mr. Schaler, thank you for laying down the gauntlet and challenging us to do more.

You can learn more about the EWB projects on their website [www.eng.umd.edu/ewb](http://www.eng.umd.edu/ewb).

Paul Hlavinka is a Masters of Engineering student at UMD, and is also AWWA Engineering Modeling Applications Committee (EMAC) member and AWWA Chesapeake Section (CSAWWA) Government Affairs Committee member.



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# Attack Of The Invaders



—By Floyd B. Johnson, *Ecoletter* Co-editor

The Chesapeake watershed has seen many invaders over the years. First came the European colonists, then the British, the Confederates and that's just the humans. There's another kind of persistent and on-going invasion that warrants mention for it has already had a major impact and promises to continue long into the future.

Non-native, invasive species have found a home in the United States for centuries. The Department of Agriculture can hardly keep up with the number of plant, animal and microbial species that have invaded our shores. It is estimated that 200 foreign species +/-, inhabit the Chesapeake region and some of them have really taken over and inflicted varying degrees of damage. If you've seen Garlic Mustard, Japanese Honeysuckle, Japanese Stiltgrass, Multiflora Rose, Mile-a-Minute Weed, Tree of Heaven, and Kudzu, you've seen what invaders can do to landscapes. And forests are being attacked (don't forget what happened to the American Chestnut) by European Gypsy Moths, Emerald Ash Borers and Hemlock Woolly Adelgids. These invaders are making big changes to developed and undeveloped areas and new ones keep showing up. Last year Gunpowder Falls was invaded by Didymo Algae that form mats called rock snot (a sufficiently disgusting name) that can clog streams and crowd out other species.

In this issue's Editors Corner, Mute Swans were a topic. Three plants and two animals share the dreaded stage with the Mute Swan as the species that most threaten the Bay's eco-system. Phragmites or Common Reed, and they are all too common, have taken over many marsh areas. This Eurasian strain has greatly reduced plant diversity and taken over areas where more important food and shelter plants such as Cordgrass and Cattails used to grow. Introduced from ship ballast, Phragmites are very difficult to control. Another plant that has taken over wetlands, especially disturbed areas, is Eurasian Purple Loosestrife. Like Phragmites, it has squeezed out more beneficial plants and reduced diversity. Introduced for ornamental and medicinal purposes, it can somewhat be controlled using insect and chemical means. Water Chestnut is the third plant on the list. Unlike the other two, it is not

widespread thanks to intensive measures to keep it from spreading. Allowed to propagate, this aquatic plant, introduced as a pond ornament, can block sunlight from reaching submerged grasses, present poor food and habitat for fish and waterfowl, create mosquito breeding grounds and clog waterways.

An animal that wrecks wetlands is the South American Nutria. Introduced on the eastern shore as an alternative fur source in the 1940's, this super-sized Muskrat feeds on the roots of marsh grasses and in that eating process destroyed nearly half of all the wetlands in the Blackwater National Wildlife Refuge. Like the Mute Swan, Maryland has decided to eliminate the Nutria. So far they have been successful in eradicating them from Blackwater refuge and efforts continue elsewhere in the state. The final animal on the worst of the bad list will not be easy to handle. European Zebra Mussels first appeared in the Great Lakes in 1988 and have multiplied at alarming rates. In the Chesapeake watershed, they have established populations in the Susquehanna basin and will likely soon start showing up in the Upper Bay—they have already been found in Conowingo reservoir. These extremely efficient filter feeders do improve water clarity but they are so proficient in eating plankton, native filter feeders don't have much of a chance. Zebra Mussels also cause excessive bio-fouling by encrusting shellfish, docks, boats and intake pipes to water and power plants. If there is any good news, it is these mussels are not salt tolerant which will limit their presence to Bay waters not too much further south than Baltimore.

One thing is certain. These invaders are here to stay. We best get used to them and find ways to limit negative impacts from their presence. One way is to promote the propagation of native plants that not only belong here, but maintain diversity in the eco-system. The 19th century Irish potato famine is a tragic example of what can happen when biodiversity is disregarded.

It could be worse. Thankfully we are not in Florida, where over 1.7 million of the remaining natural acres have been invaded, where one fourth of all animal species are non-native and where one of the world's most invaded plant communities has taken root. And where over 100,000 Burmese pythons eat deer, alligators, maybe panthers and hopefully not people.

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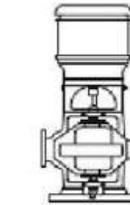
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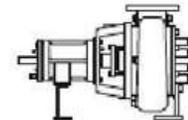
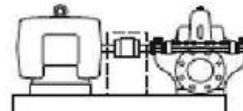
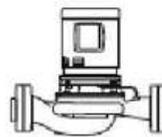
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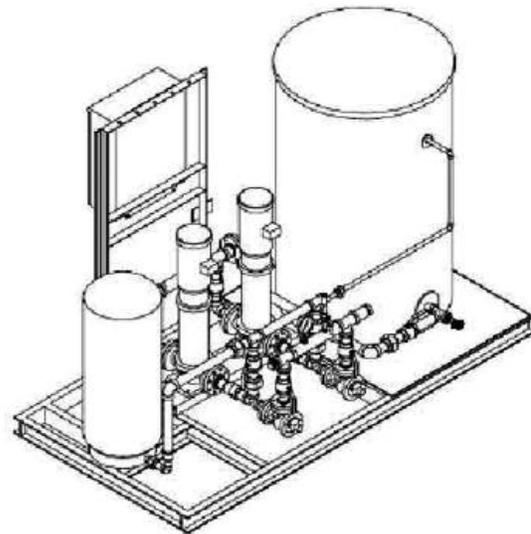
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# Plant Profile: Easton WWTP



Aerial View of Plant Site—Notice Overland Flow Terraces in Upper Portion

—By Chip Wood, P.E., Ecoletter Staff

Situated on Maryland's Eastern Shore about 30 road miles from the Bay Bridge, the town of Easton is an arts and cultural center with a population of over 14,000 individuals who like living in a small town with close access to the Chesapeake Bay. Construction of Easton's wastewater system began in 1911 and it went into operation in 1914. Easton claims the fame of having the first separated storm and sanitary systems in the state of Maryland. Currently, the wastewater system consists of about 70 miles of wastewater mains, six major pumping stations, and one treatment plant. The wastewater system serves about 7,000 customers, including all of Easton and parts of Talbot County located outside of the Town limits. Industrial waste loadings come from about six significant industrial users.

The current treatment plant employs the enhanced nutrient removal process (ENR) to reduce effluent concentrations of Total Nitrogen to 3 mg/l and Phosphorus to 0.3 mg/l. ENR plant construction started in 2004 and the plant began operation in 2007. Plant capacity is 4.0 mgd. Cost of the plant was \$36.5 million. The wastewater treatment plant is anticipated to meet Easton's wastewater needs to the year 2030 while exceeding Chesapeake Bay water quality goals for reducing nitrogen and phosphorus.

To highlight the work of the capable and dedicated plant O&M staff, the wall of the vestibule of the plant's Administration Building exhibits a bronze plaque with

the inscription: "Easton Wastewater Treatment Facility, Operations and Maintenance Excellence Award, Presented by the USEPA, 2008."

For the most part, the liquid treatment process is a dual train, but will be described here as a single train process. All flow received at the plant is pumped flow, thus the need for surge tank storage, i.e., flow equalization, to smooth out the pulsating incoming flow.

Raw influent goes to a Parshall Flume for flow metering, then to a Fine Screen (or optional bypass flow to Primary Lagoon for flow equalization—screenings go to landfill.) then flows to Vortex Grit Units (or optional bypass to 500,000-gallon Flow Equalization Tank.) Removed grit is sent to a Grit Classifier and then to the landfill.

De-gritted effluent flows to a Distribution Box where return activated sludge (RAS) from secondary clarifier is mixed in and becomes influent to a five-stage Bardenpho Reactor. The first Stage is the Fermentation Stage. Here, organisms from Secondary Clarifier RAS further mix with influent and develop a biological stress to facilitate phosphorus removal at a later stage. Second Stage is the First Anoxic Stage. Here's where bacteria consume available oxygen and reduce nitrates to gaseous nitro-



USEPA O&M Excellence Award Plaque



*Bardenpho Reactor Tank*

gen. Third Stage is the Nitrification Stage. Here, oxygen is introduced to convert ammonia to nitrate. Also, biological organisms uptake part of the phosphorus. Fourth Stage is the Second Anoxic Stage. Here nitrate is reduced to nitrogen gas due to low availability of oxygen as in the Second Stage. Also, if necessary, methanol can be added to provide an additional food source. Stage Five is the Re-aeration Stage. Here, oxygen is introduced to prevent sludge from becoming septic and to retain phosphorus. Also, polymer and coagulant can be added to enhance settling in the clarifier.

Effluent from the Bardenpho Reactor then becomes influent to the Secondary Clarifier. (Settled clarifier sludge goes to either the RAS pump or the WAS Pump. Removed surface scum goes to the Scum Pump and then to the WAS Holding Tank.) Clarified effluent goes to a Rapid Mix Tank where Coagulant and Polymer are introduced. Flow then goes to the Effluent Filters which employ the Dynasand process. (Filter Reject Water goes to the Plant Lift Station and then goes back as recycle stream to head of plant.) Filter effluent goes to a Parshall Flume for flow metering and then on to the ultraviolet (UV) Disinfection Channel and then on to Post Aeration. Next, the Final Effluent is discharged to Councill Creek, a tributary to the Choptank River.

The Solids Process is a single train for most part and is described as follows. Clarifier sludge as WAS and clarifier scum go to aerated WAS Holding Tanks. (WAS Supernatant goes to Plant Lift Station for recycle to head of plant.) WAS Tank effluent (or optional Liquid Sludge truck haul away) goes to the Sludge Feed Pump, then to a Sludge Grinder. Polymer is introduced and the sludge goes to the Centrifuge for dewatering. (Liquid centrate goes to



*Secondary Clarifier with Class A Storage Silo in Background*

recycle to head of plant.) Dewatered Solids go to a Screw Conveyor (or to optional Dewatered Sludge truck haul away) and then to a Sludge Storage Hopper and then to a Screw Conveyor and then to a Sludge Dryer. The dryer employs combustion of natural gas to generate heat. (Removed water goes to recycle to head of plant.) Dried sludge goes to a Screw Conveyor then to a Surge Bin and then to a Pneumatic Conveyor that lifts dry solids up about 75 feet and drops them into a Storage Silo. From a door in the bottom of the silo, Class A dried biosolids at 90 percent cake are dispensed to trucks for hauling away. Because of demand, haulers are selected thru a competitive bidding process and are currently paying the plant at the rate of \$10.00 per cubic yard. Final Class A biosolids are suitable for uses such as: landfill daily cover, landscaping, nurseries, farms, and general public use.



*Final Class A Biosolids Product*

In the planning and design of the new ENR plant, the Town decided to leave its existing treatment plant intact for the most part. Such a decision provides tremendous operational flexibility for the new ENR plant. Consisting of a 50-acre lagoon that discharges to 50 acres of terraced overland flow fields, the existing (previous) plant is available for uses such as: raw influent storage, treated effluent storage, or receiving any plant recycle or side streams deemed too incompatible to take to the head of the new ENR plant. Although the previous plant no longer discharges to the stream, any treated lagoon effluent can be recycled across the terraces where canary grass is grown. Harvested canary grass can be used for livestock feed.

Total plant staff consists of six persons, including the Superintendent. Plant staff does all the necessary O & M work, including all laboratory testing. (A separate organization operates and maintains the wastewater collection system.) The plant is staffed eight hours per day and is operated automatically by SCADA for the other sixteen hours.

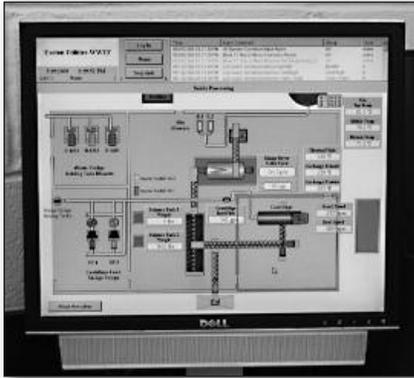
The SCADA system is based on multiple locations equipped with PCs that operators can use to monitor the process and make adjustments. With over 1000 Input/Output points and 350 alarm points, the SCADA can make dial-out calls to plant personnel who then can partially operate the plant using a laptop computer. Software used is Wonderware In-Touch.

Plant maintenance is computer based with multiple PCs. Using "Antero" software published by All-Max, preventive maintenance repair orders are printed out and the completed work is keyed back in to keep the program data updated. Reports can be generated on request to determine the degree to which the preventive maintenance is kept up to date.

*Continued on page 16*

# Profile: Easton WWTP

Continued from page 15



Operations Monitoring Screen  
(Wonderware In-Touch)

All needed laboratory testing is done at the plant with two well-equipped laboratories. A “Process Lab” does the routine testing needed for the operators to run the solids and liquid processes. An “Analytical (or compliance) Lab” provides comprehensive analyses needed for regulatory compliance.

So far, for the period January 1 thru May 30 of 2009, the plant’s performance produced an average Total Nitrogen concentration of 2.4 mg/l and Phosphorus of 0.1 mg/l. The plant’s NPDES Permit requires the



Analytical Laboratory Used for Compliance Testing

plant effluent to meet annual average concentrations of nitrogen and phosphorus, rather than the traditional monthly concentration limits. Current average daily flow is about 2.1 mgd.

Plant Superintendent, Doug Abbott, assisted with the preparation of this article.

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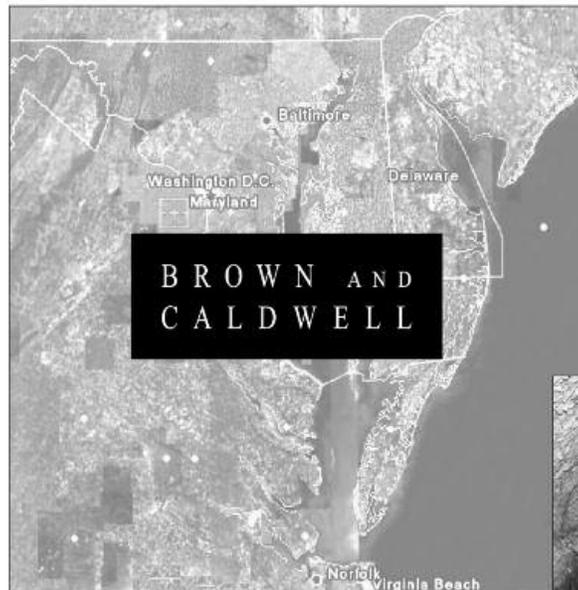
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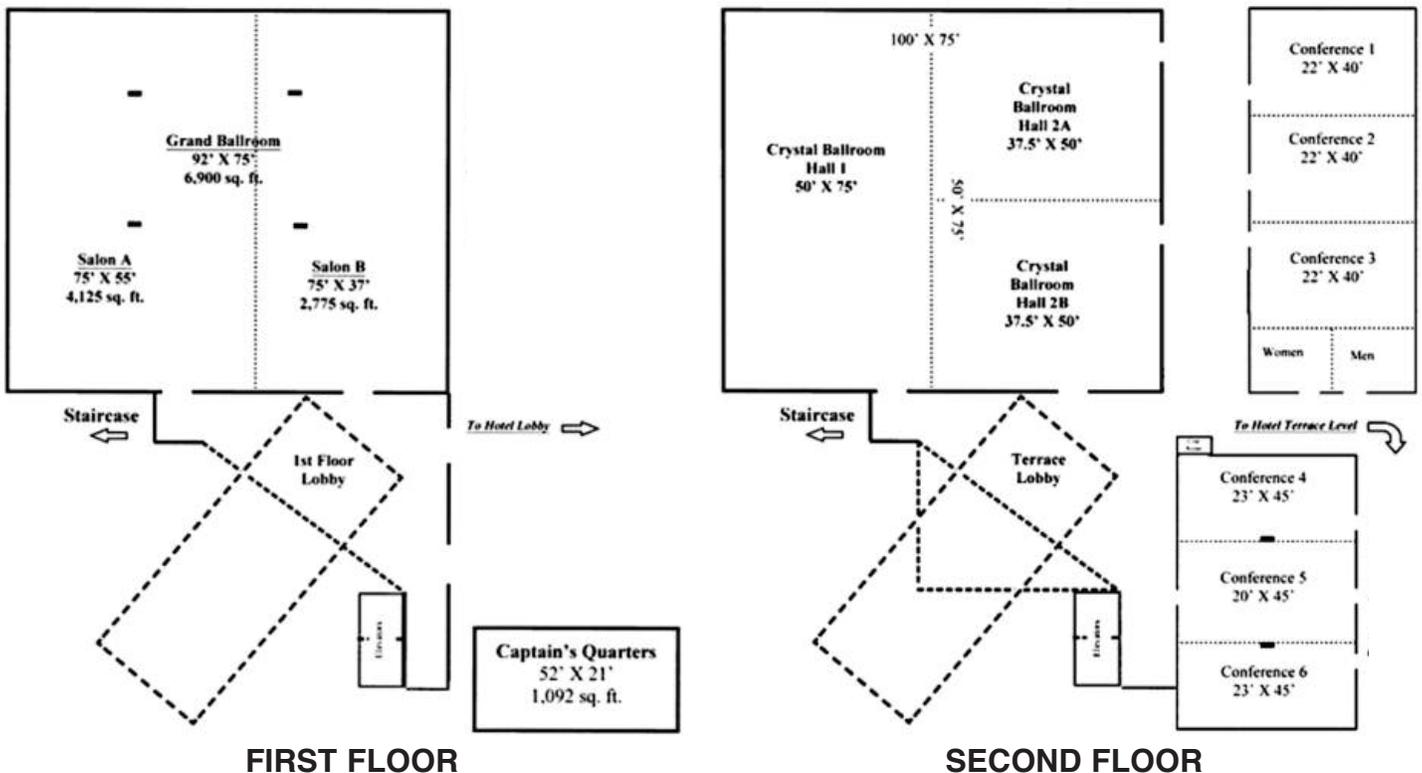
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## CWEA-WWOA 2009 Conference At-A-Glance

TUESDAY, Sept. 1 <sup>st</sup>	WEDNESDAY, Sept. 2 <sup>nd</sup>		THURSDAY, Sept. 3 <sup>rd</sup>		FRIDAY, Sept. 4 <sup>th</sup>	
 <p><b>GOLF</b> Ocean City Golf &amp; Yacht Club Berlin, MD, 8:00 am Registr.</p>	<p><b>PRESIDENTS' BREAKFAST</b> Conf. Room 6, 7:30 – 9:15 am <i>(by invitation only)</i></p>	<p><b>CWEA ANNUAL BUSINESS MTG. AND LUNCHEON</b> Grand Ballroom, Salon A 11:30 am – 1:00 pm</p>	<p><b>FUN RUN</b> Meet in Lower Lobby, Conf. Ctr. 7:30 am</p>	 <p><b>WATER FOR PEOPLE</b></p>	<p><b>OPS CHALLENGE COMPETITION</b> Parking Overhang 10:00 am – 5:00 pm</p>	<p><b>WWOA BOARD MTG.</b> Crystal Ballroom, Hall 2A 7:30 – 9:00 am</p>
	<p><b>REGISTRATION</b> Lower Lobby 8:00 am – 4:00 pm</p>				<p><b>VISIT EXHIBITS/BREAK</b> Exhibit Hall 11:00 – 11:30 am</p>	<p><b>CWEA BOARD MEETING</b> Crystal Ballroom, Hall 2B 7:30 – 9:00 am</p>
<p><b>REGISTRATION</b> Lower Lobby 12:00 – 4:00 pm</p>	<p><b>EXHIBITS OPEN</b> Exhibit Hall 8:30 am – 7:30 pm</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 1:00 – 3:00 pm</p>	<p><b>REGISTRATION</b> Lower Lobby 8:00 am – 4:00 pm</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 11:30 am – 12:30 pm</p>	<p><b>REGISTRATION</b> Lower lobby, Conf. Ctr. 8:00 – 9:00 am</p>	
<p><b>EXHIBITOR PACKAGE PICKUP</b> Lower Lobby 12:00 – 4:00 pm</p>	<p><b>CONTINENTAL BREAKFAST</b> Exhibit Hall 8:30 am</p>	<p><b>VISIT EXHIBITS/ BREAK</b> Exhibit Hall 3:00 – 3:30 pm</p>	<p><b>EXHIBITS OPEN</b> Exhibit Hall 8:00 am – 2:00 pm</p>	<p><b>WWOA ANNUAL BUSINESS MTG. AND LUNCHEON</b> Grand Ballroom, Salon A 12:30 – 2:00 pm</p>	<p><b>CONTINENTAL BREAKFAST</b> Upper Lobby Conference Center 8:00 am</p>	
<p><b>PRE-CONFERENCE</b> <i>Asset Management</i> Conf. Rooms 2/3 2:00 – 5:00 pm</p>	<p><b>BIOSOLIDS BEAUTY CONTEST</b> CWEA Table, Lower Lobby 9:00 am – 1:00 pm</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 3:30 – 5:00 pm</p>	<p><b>CONTINENTAL BREAKFAST</b> Exhibit Hall, 8:00 am</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 2:00 – 5:00 pm</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 9:00 – 10:30 am</p>	
<p><b>EARLY BIRD RECEPTION AND EXHIBITS OPEN</b> Exhibit Hall 5:00 – 7:00 pm</p>	<p><b>OPENING CEREMONY</b> Conf. Rms. 1/2/3 9:30-11:00 am</p>	<p><b>VISIT EXHIBITS/BREAK</b> Exhibit Hall 5:00 – 5:30 pm</p>	<p><b>EWB SILENT AUCTION</b>  Lower Lobby, Conference Center 8:00 am – 5:30 pm</p>	<p><b>AWARDS CEREMONY</b> Crystal Ballroom, Hall 1 6:00 pm</p>	<p><b>BREAK</b> Upper Lobby, Conf. Ctr. 10:30 – 11:00 am</p>	
<p><b>ALL EXHIBITS ARE LOCATED IN THE CRYSTAL BALLROOM AND TERRACE LOBBY</b></p>	<p><b>VISIT EXHIBITS/BREAK</b> Exhibit Hall 11:00 – 11:30 am</p>	<p><b>MEET &amp; GREET AND SS INDUCTION</b> Exhibit Hall 5:30 – 7:30 pm</p>		<p><b>AWARDS RECEPTION</b> Crystal Ballroom, Hall 2B Following the ceremony</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 11:00 am – 12:00 pm</p>	
	<p><b>COMPLIMENTARY LUNCH</b> Exhibit Hall 11:00 am – 12:30 pm</p>	<p><b>CASINO NIGHT</b> Grand Ballroom (Salons A&amp;B) 7:30 – 10:30 pm</p>	<p><b>TECHNICAL SESSIONS</b> Conference Rooms 1, 2/3, 4/5 &amp; 6 9:00 – 11:00 am</p>	<p><b>PRESIDENTS' RECEPTION</b> Crystal Ballroom, Hall 2A 9:00 – 11:30 pm <i>(by invitation only)</i></p>	<p><b>CLOSING SESSION &amp; DOOR PRIZE DRAWING</b> Upper Lobby or Banquet Hall 2B 12:00 pm</p>	

# 2009 CWEA/WWOA ANNUAL JOINT CONFERENCE REGISTRATION FORM

## September 1-4, 2009 — Clarion Fontainebleau Hotel, Ocean City, MD

For the latest 2009 Joint Conference information, please visit us on the web at <http://www.wwoa-cwea.org>.

**Three ways to Pre-Register by Friday 8/21/09:** Pick-up Pre-Registration meeting materials (Name Badges/Tickets) at the on-site Registration Desk in the lower lobby.

1. **MAIL:** Complete and mail registration form to: Acteva, 100 Pine Street 10th Floor, San Francisco, CA 94111. **MUST be Postmarked by 8/21/09**
2. **FAX:** Complete and FAX registration form to ACTEVA at 415-276-2399. **NO FAX registrations after 8/21/09**
3. **ON-LINE:** Use the link at <http://www.wwoa-cwea.org> for on-line registration through ACTEVA. (Registration form not needed) **Pre-Register on-line by 8/21/09**

All Pre-Registration payments can be made by Credit Card (provide Credit Card Information below or on-line) or Check (payable to ACTEVA). **MUST be Postmarked by 8/21/09**

**Late Registration: Saturday 8/22/09 to Friday 9/4/09 - On-Line ONLY - No Check Payments**

**ON-LINE:** Use the link at <http://www.wwoa-cwea.org> for on-line Late Registration through ACTEVA. (This Registration form not needed)

Late registration payment can ONLY be made on-line by Credit Card.

**NOTE:** A Late Fee of \$30 will be assessed for Late Registrations after Friday 8/21/09 and all On-Site registrations.

**On-Site Registration: Tuesday 9/1/09 to Friday 9/4/09** at the on-site Registration Desk in the lower lobby.

On-site Payment can be made by Credit Card or Check (payable to CWEA/WWOA Joint Conference)

**NOTE:** A Late Fee of \$30 will be assessed for all On-Site registrations. Checks payable to ACTEVA will NOT be accepted for On-Site Registrations

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**GOLF:** If you are interested in participating in the golf outing on Tuesday morning, please complete the Golf Registration Form in the Conference Brochure.

**HOTEL:** A block of rooms at the Clarion has been reserved until August 6, 2009, for Joint Conference attendees, starting at \$165/night. Conference room rates may not be available after August 6. All prices exclude taxes. Please call the Clarion at 1-800-638-2100, and be sure to reference the CWEA/WWOA Joint Conference to receive the conference rate.  
**Rooms are limited, so please make your reservations early!**

Please place a **✓** mark next to your selection and circle the price:

✓	Full Conference Registration <sup>1</sup>	Member	Non Member	Full-Time Student *
	I will be attending: _____ CWEA Luncheon (Please select one) _____ WWOA Luncheon	\$160	\$210	\$30
	3-Day Technical Session Registration <sup>2</sup>	\$125	\$175	\$15
	OR One-Day Registration Packages			
	Wednesday (September 2, 2009) <sup>2</sup>	\$75	\$95	\$5
	Thursday (September 3, 2009) <sup>2</sup>	\$75	\$95	\$5
	Friday (September 4, 2009) <sup>2</sup>	\$60	\$75	\$5

Late Fee \$30 (On-Line Late Registration after 8/21/09 & On-Site) \$ \_\_\_\_\_

\* Student ID required for Student Rates. Total Registration Fees \$ \_\_\_\_\_

Notes: 1. Full Registration includes admission to Pre-Conference Session, Exhibits, Technical Sessions, Early Bird Reception (Tuesday), Exhibit Hall Lunch (Wednesday), Meet & Greet (Wednesday), 5S Induction (Wednesday), Casino Night (Wednesday), one Business Luncheon/Annual Meeting of your choice and Awards Ceremony/Reception (Thursday).

2. 3-Day Technical Session and One-day Registrations include admission to Technical Sessions: Exhibits, and any no-charge events for that day. Business Luncheon/Annual Meeting and Casino Night tickets may be purchased separately.

ADDITIONAL TICKETS	Number of Additional Tickets	Total Cost
Casino Night – Wednesday	_____ @ \$40 ea	
CWEA Luncheon/Annual Meeting – Wednesday	_____ @ \$20 ea	
WWOA Luncheon/Annual Meeting – Thursday	_____ @ \$20 ea	
Water for People Fun Run/Walk – Thursday	_____ @ \$25 ea	
<b>Additional Tickets Subtotal \$</b>		

**Total Amount Due (Registration Fees plus Additional Tickets) \$ \_\_\_\_\_**

For questions regarding conference registration, contact: Alan Will at [jointcon2009@yahoo.com](mailto:jointcon2009@yahoo.com) (preferred) or at 443-662-4240.

# 2009 Tri-Association Conference Schedule

## TUESDAY, SEPTEMBER 1ST, 2009

- 8:00 am check-in **Golf Outing**  
9:00 am "shotgun" start  
*The golf outing this year will be held at the Ocean City Golf & Yacht Club in Berlin, MD.*
- 12:00 pm–4:00 pm **Early Registration** open in the Lower Lobby of the Conference Center
- 12:00 pm–4:00 pm **Exhibitor Package Pickup**, Lower Lobby
- 2:00 pm–5:00 pm **Pre-Conference Session** to be held in Conference Rooms 2&3 of the Conference Center  
**Topic: "Asset Management: Do You Know Where Your Assets Are?"**
- Moderators:*  
Paresh Sanghavi—Brown and Caldwell, and Ted DeBoda—URS Corporation  
Steve Allbee—Project Director, Gap Analysis, U.S. EPA  
F. Paul Calamita—Chairman, AquaLaw, PC  
Claudio Ternieden—Assistant Director of Research, WERF  
Gregory Boykin—Corporate Asset Management Group Leader, WSSC  
Thais Vitagliano—Project Manager, WSSC  
Myron Olstein—Utilities Finance and Benchmarking Consultant, Amawalk
- 5:00 pm–7:00 pm **Early Bird Reception** in the Exhibit Hall (Crystal Ballroom, 2nd floor) of the Conference Center

### REMEMBER!

**Exhibitors are the lifelines of our conferences and our associations!**

**Visit as many as you can!**

**Lite fare will be available, plus beer, wine and soft drinks at the open bars (cash for hard drinks).**

**Sponsored by:**

**ADS Environmental Services and Dutchland, Inc.**

## WEDNESDAY, SEPTEMBER 2ND, 2009

- 7:30 am–9:15 am **Presidents' Breakfast** (by invitation only) in Conference Room 6 of the Conference Center
- 8:00 am–4:00 pm **Registration open**, Lower Lobby of the Conference Center
- 8:30 am **Continental Breakfast** in the Exhibit Hall (Crystal Ballroom), **Sponsored by: RJN Group**
- 8:30 am–7:30 pm **Exhibits open** in the Crystal Ballroom/Terrace Lobby
- 9:00 am–1:00 pm **Biosolids Beauty Contest** at CWEA table in Lower Lobby

## WEDNESDAY, SEPTEMBER 2ND, 2009 (cont'd)

- 9:30 am–5:00 pm **Ops Challenge Classroom Events** (NOT OPEN TO THE PUBLIC), Grand Ballroom, Salon B of the Conf. Center
- 9:30 am–11:00 am **Opening Ceremony** in Conference Rooms 1/2/3, Conference Center
- Keynote Speaker:** Steve Allbee, U.S. EPA, Project Director, Gap Analysis
- 11:00 am–11:30 am **Visit Exhibits/Break** in the Exhibit Hall (Crystal Ballroom/Terrace Lobby)
- 11:00 am–12:30 pm **Lunch** in the Exhibit Hall. Enjoy a complimentary lunch (non-alcoholic beverages provided)
- 11:30 am–1:00 pm **CWEA Annual Business Meeting and Luncheon** in the Grand Ballroom, Salon A
- New Officers for 2009–2010 will be elected. This is a ticketed event. You must bring your CWEA Business Meeting ticket for admission.*
- Sponsored by: CH2M Hill**



### Steve Allbee

**U.S. EPA, Project Director, Gap Analysis**

Steve Allbee has been with the United States Environmental Protection Agency for 30 years. He is the principal author of The Clean Water and Drinking Water Infrastructure Gap Analysis. The "Gap Analysis" is a comprehensive national level assessment often cited as a primary source document

in communicating the challenges ahead for America's water and wastewater systems. Of late, the central point of his work is promoting asset management approaches as a pathway toward sustainable water and wastewater services for the 21st century. He has published several articles and papers on America's pathway to sustainable water and wastewater systems.

During his tenure at U.S. EPA, Mr. Allbee has served as the Director of the Planning and Analysis Division, the Acting Director of the Municipal Construction Division, Chief of the Municipal Assistance Branch, Expert Advisor to the Border Environment Cooperation Commission and the North American Development Bank, and he has also undertaken several headquarters' staff assignments. Prior to joining U.S. EPA, Mr. Allbee managed planning for a large regional wastewater system with a service population of approximately 2 million people.

Over his career, Mr. Allbee has held national leadership responsibility for establishing the innovative State Revolving Fund (SRF) Program. Also, he led efforts to develop unique infrastructure assistance programs for underserved and economically disadvantaged communities such as the Mexico border communities and Tribal and Alaskan Native Villages. In addition, Mr. Allbee managed a broad network of technical assistance services that provided operations, maintenance and related support to small communities. He frequently takes part in international technical assistance missions on issues concerning water and wastewater organizations, project development, asset management strategies and finance.

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**Bjorn von Euler**  
**Member, Board of Trustees,**  
**Water Environment Federation**

*Bjorn von Euler is a member of the 2008–2009 Board of Trustees for the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, VA.*

*He is currently the director of corporate communications for ITT Corporation's Fluid Technology and Motion & Flow Control groups. Born in Sweden, Bjorn has spent more than 35 years in the marketing and communications field and the last half of them serving ITT Flygt and ITT Fluid Technology. In doing so he has built global relationships with business and trade media, NGOs, educators, communicators and investors.*

*A WEF member since 2001, Bjorn holds seat 22 in the International Water Academy and is one of originators of the Stockholm Water Prize and Stockholm Junior Water Prize—one of WEF's most successful public education programs. Bjorn holds a Master in Communications and Marketing.*

**About WEF:** Formed in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization with 35,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF and its Member Associations proudly work to achieve our mission of preserving and enhancing the global water environment.

**WEDNESDAY, SEPTEMBER 2ND, 2009 (cont'd)**

- 1:00 pm–3:00 pm **Technical Sessions** in Conf. Rooms 1, 2/3, 4/5, & 6
- 3:00 pm–3:30 pm **Visit Exhibits/Break** in the Exhibit Hall, Crystal Ballroom/Terrace Lobby. **Sponsored by: Malcolm Pirnie**
- 3:30 pm–5:00 pm **Technical Sessions** in Conf. Rooms 1, 2/3, 4/5, & 6
- 5:00 pm–5:30 pm **Visit Exhibits/Break** in the Exhibit Hall
- 5:30 pm–7:30 pm **Meet & Greet and 5S Induction** in the Exhibit Hall. Lite fare will be available, plus beer, wine and soft drinks at the open bars. **Sponsored by: Black & Veatch**
- 7:30 pm–10:30 pm **Casino Night** in the Grand Ballroom, Salons A&B, 1st floor, Conference Center. **Sponsored by Brown & Caldwell.**

**CASINO NIGHT**

**Wednesday, September 2nd, 7:30 pm–10:30 pm**

**Grand Ballroom, Salons A&B, 1st floor, Conference Center**

*A WWOA/CWEA Joint Conference favorite returns! The Grand Ballroom on the first floor will be set up with roulette, blackjack, craps, slots, and poker for a fun-filled evening. Enjoy a few hours of fun, simulated gambling with family and friends. Enjoy beer, wine and soft drinks at the open bars (cash for hard drinks). A selection of hot and cold hors d'oeuvres will be available. This is a ticketed event.*

*You must bring your Casino Night ticket for admission.*

**Sponsored by: Brown & Caldwell**

**WEDNESDAY—TECHNICAL SESSIONS:**

**Room 1**

- 1:00 pm **Grease is Good**  
Wimmer, Robert, PE.; Hartz, Frank, PE.; and Deardorff, Paul, PE.—*Black & Veatch Corp.*
- 1:30 pm **Safety and Reliability—Design Considerations for Methanol Feed Facilities at Wastewater Treatment Plants**  
Spalding, Stephanie, PE.—*Malcolm Pirnie, Inc.*
- 2:00 pm **The Use of Geotechnical Baseline Sheets for Trenchless Projects**  
Goodfellow, Robert, PE.; Headland, Paul, and O'Connell, Steve—*Black & Veatch Corporation*
- 2:30 pm **EPA's Chesapeake Bay Watershed TMDL Will Define Historic Restoration Goal and Requirements for Bay States and All Regulated Sources**  
Calamita, Paul—*AquaLaw, PC*
- 3:30 pm **Synergy—Infrastructure Changes and Urban Revitalization**  
McDermott, Brian, PE.—*DCWASA*  
Soloducha, Frank, PE., BCEE—*Greeley and Hansen, LLC*
- 4:00 pm **Estimating Greenhouse Gas Emissions and Energy Consumption for Biosolids Land Application: A Simplified Approach**  
Winzeler, Edwin; Johnston, Trudy; and Brandt, Robin—*Material Matters, Inc.*
- 4:30 pm **Customer Service, or What Does Your Customer Really Want?**  
Rocco, Anthony—*Howard County Bureau of Utilities*

**Rooms 2&3**

- 1:00 pm **A Real World Evaluation of Acoustic Inspection of Wastewater Force Mains**  
Derr, Kelly, PE.—*Brown and Caldwell*  
Hubbard, Phil, PE.—*Hampton Roads Sanitation District*  
Nzainga, Jackson—*Pressure Pipe Inspection Co.*
- 1:30 pm **Pump On! Inspection of Baltimore's Dundalk Force Main**  
Perkins, Laurie, PE.; and Steiner, Amy, EIT—*RJN Group, Inc.*
- 2:00 pm **Flow Monitoring as a Design Tool: Inverted Siphon Sewer Crossings of Christina Creek, City of Newark, Delaware**  
Six, Kimberly, PE.—*Whitman, Requardt & Associates, LLP*
- 2:30 pm **It's Critical—Force Main Failure Risk and Condition Assessment in a Large Regional System**  
Hubbard, Phil, PE.—*Hampton Roads Sanitation District*  
Derr, Kelly, PE.; and Wilson, Christopher, PE.—*Brown and Caldwell*
- 3:30 pm **Optimizing Performance in the Collection System Workplace**  
DiGenova, Teresa; and Hannan, Philip—*Black & Veatch Corporation*
- 4:00 pm **Emptying Battery Park: Response to Flooding from Tropical Storm Ernesto**  
Keeler, Jessica—*Greeley and Hansen, LLC*

## WEDNESDAY—TECHNICAL SESSIONS (cont'd)

### Rooms 2 & 3

- 4:30 pm **Major Changes Proposed to Maryland Storm Water Management Rules—Likely to have Implications in All Mid-Atlantic States**  
Ochsenhirt, Lisa—AquaLaw, PC

### Rooms 4&5

- 1:00 pm **Start up of the Elkton WWTP Enhanced Nutrient Removal Facility**  
George, Kelvin, P.E., BCEE; Young, Thor, P.E.; Siemers, Laura; and Jablonski, Greg—Stearns & Wheler, LLC  
Benner, Kenneth—Severn Trent
- 1:30 pm **Lessons Learned During Design, Construction and Start-up of a Sequencing Batch Reactor (SBR) to Achieve ENR**  
Revette, John; Young, Thor, P.E.; and Crosswell, Scott, P.E.—Stearns & Wheler, LLC  
Gill, Jim; and Zellman, Mick—City of Havre de Grace
- 2:00 pm **Successfully Implementing Enhanced Biological Phosphorus Removal at Municipal WWTPs**  
Rohrbacher, Joe, P.E.; Bilyk; Katya, P.E.; Latimer, Ron, P.E.; Plitt, Paul, Ph.D., P.E.; and Taylor, Ron, P.E.—Hazen and Sawyer
- 2:30 pm **Implementing a Plant-Wide, Fully Integrated Process Control System at a Green Field Enhanced Nutrient Removal Wastewater Treatment Facility**  
Sedlack, Dustin; and Maillard, Vincent—Stearns & Wheler, LLC  
Abbott, Doug—Easton Utilities Commission
- 3:30 pm **Side-by-Side Testing of an RBR (MBBR RBC) and Conventional RBC**  
Norkis, Charlie, P.E.; Solheim, Manley, P.E.; and Cathcart, William, P.E.—Cape May County Municipal Utilities Authority  
Koch, Carl, Ph.D., P.E.; and Umble, Art, Ph.D., P.E.—Greeley and Hansen, LLC  
Stensel, H. David, Ph.D., P.E.—University of Washington
- 4:00 pm **Bench-scale Study on Baltimore City Landfill Leachate**  
Wang, G., Ph.D., P.E.; Kim, E. D.; Lin, K.; and Schulte, G. R., P.E., BCEE—KCI Technologies, Inc.  
Nguyen, V.—City of Baltimore
- 4:30 pm **Kinetic/Half-Saturation Coefficient Considerations for Post-Denitrification MBBR**  
Peric, Marija; Stinson, Beverly, Ph.D.; Neupane, Dilli; Locke, Edward; Kharkar, Kathleen; and Mokhayeri, Yalda—AECOM Water  
Murthy, Sudhir, Ph.D., P.E.; Bailey, Walter; Kharkar, Salil, P.E.; Passarelli, Nicholas, P.E.; Carr, John; Der Minassian, Rouben; Sultan, Martin; and Shih, George—DCWASA

### Room 6

- 1:00 pm **Update: Key Developments in Biosolids Management**  
Ochsenhirt, Lisa—AquaLaw, PC
- 1:30 pm **Solids Processing Upgrade at WSSC Western Branch Using Innovative Technology**  
Abu-Orf, Mohammad; and Davies, Grant—AECOM Water  
Sauvageau, Alan; and Shirodkar, Nikhil—WSSC

- 2:00 pm **DCWASA Biosolids Program—Evolving to a New Future**  
Shafer, Perry, P.E. and Braswell, Philip, P.E.—Brown and Caldwell  
Peot, Chris, P.E.; Murthy, Sudhir, Ph.D.; P.E.; and Bailey, Walter, P.E.—DCWASA  
Cooper, Alan—Parsons
- 2:30 pm **Selecting the Optimal Solids Handling Process for the Parkway WWTP**  
Weikert, J. Scott—CH2M Hill  
Selock, Kevin—WSSC
- 3:30 pm **Got Gas? Optimized Class-A Digestion and Green Power Generation at Columbus, GA**  
Willis, John; and Sanghavi, Paresh—Brown and Caldwell  
Arnett, Cliff—Columbus Water Works
- 4:00 pm **Application of AFCsm Technology for Sludge Minimization for Municipal Wastewater Treatment Plants**
- Room 6**
- Rozich, Alan, Ph.D., P.E., DEE; Colvin, Richard, P.E.; Hahn, Christian, P.E.; and Rodgers, Donald—PMC BioTec Company  
Maltais, Philippe—Town of Seabrook (NH) Wastewater Treatment Facility
- 4:30 pm **Evaluation and Priority Ranking of Exposed Sewer Components in Active Waterways**  
Carpenetti, Ed—WSSC

### Conference Note

*Door prizes will typically occur in the Exhibit area. You must be present to win!*

## THURSDAY, SEPTEMBER 3RD, 2009

- 7:30 am **Water for People Fun Run**, meet in Lower Lobby, Conference Center. Entrance fee: \$25 per person (*pre-registration is not required*). All participants will receive a Water For People t-shirt commemorating the event.
- 8:00 am–5:30 pm **Engineers Without Borders Silent Auction**, Lower Lobby, Conference Center  
Throughout the day, you can bid on (and possibly win!) items to brighten your day! *All proceeds benefit Engineers Without Borders.*
- 8:00 am–2:00 pm **Exhibits open** in the Exhibit Hall
- 8:00 am–4:00 pm **Registration open**, Lower Lobby of the Conference Center
- 8:00 am **Continental Breakfast** in the Exhibit Hall
- 9:00 am–11:00 am **Technical Sessions** in Conf. Rooms 1, 2/3, 4/5, & 6
- 10:00 am–5:00 pm **Ops Challenge Competition** outside under the covered parking lot, near hotel entrance. **Sponsored by: ADS Environmental Services; Whitman, Requardt & Associates, LLP; RJN Group; and KCI Technologies, Inc.**
- 11:00 am–11:30 am **Visit Exhibits/Break** in the Exhibit Hall (Crystal Ballroom/Terrace Lobby). **Sponsored by: Malcolm Pirnie**

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## THURSDAY, SEPTEMBER 3, 2009 (cont'd)

- 11:30 am–12:30 pm **Technical Sessions** in Conf. Rooms 1, 2/3, 4/5, & 6
- 12:30 pm–2:00 pm **WWOA Annual Business Meeting & Luncheon** in the Grand Ballroom, Salon A (Lower Level, Conf. Center)  
*This is a ticketed event. You must bring your WWOA Business Meeting ticket for admission.*
- 2:00 pm–5:00 pm **Technical Sessions** in Conf. Rooms 1, 2/3, 4/5, & 6
- 6:00 pm **Awards Ceremony** in the Crystal Ballroom, Hall 1 (Upper Level, Conference Center)  
**Awards Reception** in the Crystal Ballroom, Hall 2B immediately following Awards Ceremony. **Sponsored by: PBS&J**
- 9:00 pm–11:30 pm **Presidents' Reception** in Crystal Ballroom, Hall 2A (by invitation only)

## THURSDAY—TECHNICAL SESSIONS:

### Room 1

- 9:00 am **Challenges To The O&M Workforce—A WSSC Prospective**  
Amad, Sam, P.E., DEE—WSSC
- 9:30 am **Rehab Effectiveness: Why Holistic Rehab is Required for Significant I&I Reductions**  
Batman, Paul; Travis, John Paul; and Shelton, James W.—Malcolm Pirnie, Inc.
- 10:00 am **Development and Implementation of FOG and Root Control Programs in the City of Baltimore, MD**  
Espinosa, Carlos, P.E.; and Huang, John—KCI Technologies, Inc.  
Qadri, Wazir—City of Baltimore
- 10:30 am **FOG Source Control**  
Badmus, Muminu—DCWASA
- 11:30 am **Achieving Sustainable Wastewater Treatment through the Application of Life Cycle Management**  
Tarallo, Steve—Black & Veatch Corporation
- 12:00 pm **Energy Optimization at Advanced Wastewater Treatment Plants**  
Hanna, Mike; and Tarallo, Steve—Black & Veatch Corp.  
Owsenek, Brian; and Appleman, Thomas—UOSA  
Carbary, Paul—ASA  
Clough, Dennis—Custom Energy, LLC
- 2:00 pm **Energy Efficiency for WWTPs: An Update of Best Practices and Case Studies**  
Doane, Jonathan, P.E.; and Stone, Lori—Black & Veatch Corporation
- 2:30 pm **Calculating the Carbon Footprint of Wastewater Treatment**  
Kenel, Pam, P.E.; Tarallo, Steve; Shaw, Andrew; and Thomson, Pete—Black & Veatch Corp.
- 3:00 pm **Energy Recovery through Power Generation—Determining the Right Fit**  
Thomson, Peter; Stone, Lori; and Scanlan, Patricia—Black & Veatch Corporation

- 3:30 pm **An Example of Calculating the Carbon Footprint of BNR/ENR Plants**  
Yeganeh, Behnoush; Vermande, Stephanie; and Wilson, Tom—AECOM  
Hunt, Paul—Earth Tech Engineering Limited (Tankersley, U.K.)
- 4:00 pm **Latest Advances in Greenhouse Gas Process Emissions from Wastewater Treatment**  
Weikert, J. Scott; Mack, Jamiyo; Katehis, Dimitrios; and Taylor, Robert—CH2M Hill
- 4:30 pm **Greenhouse Gas Production from Biological Wastewater Treatment Processes**  
Meyers, Jon; and Sevenser, Michael—KCI Technologies, Inc.

### Rooms 2&3

- 9:00 am **Doing It for the River**  
Russell, Jodye—DCWASA  
Thorstenson, Mike—Greeley and Hansen, LLC
- 9:30 am **Repair and Rehabilitation of the Failed 66" PCCP Interceptor**  
Behe, Mark—WSSC
- 10:00 am **Lessons Learned for Successful Trenchless Installations in the Piedmont**  
Headland, Paul; Chin, Jason; and Farooqi, Owais—Black & Veatch Corporation
- 10:30 am **Speaking Legalese: Developing a Legally Sustainable Private Property I/I Program**  
Rardon, Kelly, J.D.—URS Corporation
- 11:30 am **Design Rehabilitation Challenges for Large Diameter Pipes for Patapsco Interceptors**  
Perez, Celina, P.E.—URS Corporation
- 12:00 pm **Little Patuxent Parallel Sewer Interceptor in Howard County, MD—Unique Aspects of a Large-Scale Interceptor Design and Construction**  
Blassino, Monika, P.E.; and Cooper, P. Andrew, P.E.—Whitman, Reardon and Associates
- 2:00 pm **Collection Systems: An Innovative Approach to Hydraulic Modeling for Reducing Inflow and Infiltration**  
Siemers, Laura; Kerr, David, P.E., BCEE; Hilderhoff, Steve, P.E., BCEE—Stearns & Wheeler, GHD  
Webber, James, P.E.; and Yoder, Mark, P.E.—Allegheny County Utilities Division
- 2:30 pm **Modeling as a Tool in Meter Data Analysis**  
Gresh, John, P.E.; and Perkins, Laurie, P.E.—RJN Group
- 3:00 pm **Predicting the Future: Estimating the Impact of a Rehabilitation Program on Collection System Performance Using an XPSWMM Model**  
Lennon, Bryan; Sinn, Anthony; Hofer, Dave; and Shelton, Jim—Malcolm Pirnie, Inc.
- 3:30 pm **Developing a Practical Sewer Cleaning and Inspection Program—The City of Wilmington, Delaware Case Study**  
Patackis, Christopher, P.E., BCEE; and Lanter, David, Ph.D.—Camp, Dresser & McKee, Inc.  
Beattie, David, P.E.—City of Wilmington, DE, Dept. of Public Works

## THURSDAY—TECHNICAL SESSIONS (cont'd)

### Rooms 2&3

- 4:00 pm **Modeling One of the Most Complex Wastewater Interceptor Systems in the World**  
Pelletier, Jeffrey; and Wittenberg, Matthias—*Camp, Dresser & McKee, Inc.*  
Hubbard, Phillip; and Bernas, Jay—*Hampton Roads Sanitation District*
- 4:30 pm **Alternative Design Storm Distributions for Evaluating WSSC's Sanitary Sewer System Capacity and Planning System Improvements**  
Fricke, Craig, P.E.; Dixon, Kenneth—*WSSC*  
Gadiparthi, Srinivasa, P.E.; Moore, Charles, P.E.; and Alajangi, Ramesh—*Camp, Dresser & McKee, Inc.*

### Rooms 4&5

The following 1-hour presentations are approved for 1-hour process credit each

- 9:00 am **Design of Broadwater Water Reclamation Facility ENR Upgrade**  
Schulte, G. Raymond, P.E., BCEE; and Wang, Grace, Ph.D., P.E.—*KCI Technologies, Inc.*  
Wilson, Thomas, Ph.D., P.E., BCEE—*AECOM*  
Heiner, George, P.E., BCEE—*Anne Arundel Co. DPW*
- 10:00 am **Design and Operating Considerations for a Post Denitrification MBBR to achieve LOT Effluent NOx < 1 mg/l and effluent TP<0.18 mg/l**  
Stinson, B., Ph.D.; Peric, M.; Neupane, D.; Laquidara, M.; Locke, E.—*AECOM Water*  
Murthy, S., Ph.D., P.E.; Bailey W.; Kharkar, S., P.E.; Passarelli, N.; Der Minassian, R.; Carr, J.; Sultan, M.; and Shih G.—*DCWASA*
- 11:30 am **Analysis of 2 Years of Operating Data from Largest High-rate Treatment System in the United States**  
Jaworski, Lawrence; and Long, Mary—*Black & Veatch Corporation*  
Middlebrough, Chris—*City of Toledo*
- 2:00 pm **Overview of Best Anaerobic Digestion Technologies When Sustainability is Important**  
Wilson, Tom, Ph.D., P.E., BCEE—*AECOM*
- 3:00 pm **Parkway WWTP ENR Upgrade**  
Bruton, Theresa, P.E.; Latimer, Ron, P.E.; Taylor, Ron, P.E.; Pitt, Paul, Ph.D., P.E.; Nailor, David, P.E.—*Hazen and Sawyer*  
Selock, Kevin, P.E.; Geary, Dennis, P.E.; and Burton, William—*WSSC*
- 4:00 pm **Optimizing Nutrient Removal Through Instrumentation**  
Dabkowski, Bob—*Hach Company*

### Room 6

- 9:00 am **Innovative High Speed Turbo Blowers for Process Aeration at WWTPs Consider the Benefit of this New Blower Technology**  
Fountas, John; McQuarrie, Jim; and Zulliger, Kim—*CH2M Hill*
- 9:30 am **Use of On-line Instruments for Monitoring Low Nutrient Concentrations**  
Neupane, D.; Laquidara, M.; Mokhayeri, Y.; Peric, M.; and Stinson, B., Ph.D.—*AECOM Water*

Kharkar, S., P.E., Michaelis, M. and Passarelli, N.—*DCWASA*

- 10:00 am **Applying Oxidation Reduction Potential Sensors to BNR Systems**  
Dabkowski, Bob—*Hach Company*
- 10:30 am **Ballasted Biological Treatment Process Removes Nutrients and Doubles Plant Capacity**  
Catlow, Ian; Woodard, Steven; and Backman, Robert—*Cambridge Water Technology*
- 11:30 am **Disinfection Utilizing an Innovative Microwave UV System**  
Newton, Jim, P.E., BCEE—*Kent County, DE DPW*  
Neulight, Joel; Abboud, Nadia; and Collins, Duncan—*Severn Trent Services*  
Kershner, Robert—*Kershner Environmental Technologies*
- 12:00 pm **ABCs of OSHG**  
Gregson, Andrew, P.E.; Bors, Gary, P.E.; and Vadiveloo, Enrique, EIT—*Hazen and Sawyer, PC*
- 2:00 pm **Evaluation of Supplemental Carbon Sources at Five BNR Facilities**  
Bruton, Theresa, P.E.; Rohrbacher, Joe, P.E.; Pitt, Paul, Ph.D., P.E.; Latimer, Ron, P.E.; and Bilyk, Katya, P.E.—*Hazen and Sawyer*
- 2:30 pm **From Lagoons to MBR: A Case Study of the Tusculum WWTP**  
Blair, Elizabeth, P.E.; Thomson, Pete; Schauer, Peter; and Hanna, Mike—*Black & Veatch Corporation*  
Arnett, Jane—*City of Charles Town*
- 3:00 pm **Membrane Bioreactor and Spray Irrigation of Pharmaceutical Wastewater**  
Lowe, William, Ph.D., P.E., DEE; Martino, Joseph; and Watkins, Deborah, P.E., DEE—*Weston Solutions, Inc.*  
Nemitz, Mark—*Sanofi Pasteur, Inc.*
- 3:30 pm **Membrane Bioreactor and the High Flow Biological Treatment System for the 15.0-mgd Cox Creek WRF**  
Perri, Kristi; and Young, Thor, P.E.—*Stearns & Wheeler, LLC*  
Katehis, Dimitri; and Weikert, Scott—*CH2M Hill*
- 4:00 pm **Material Considerations in the Design of Supplemental Carbon Storage Systems**  
Hice, Brad; Copithorn, Rip; and Crosswell, Scott, P.E.—*Stearns & Wheeler, LLC*  
Amad, Sam, P.E., DEE; Brennan, Paul; and Buglass, Bob—*WSSC*  
Dacres, Chester—*DACCO SCI, Inc.*
- 4:30 pm **Design Considerations of Supplemental Carbon Feed Facilities for Enhanced Nutrient Removal**  
Lothman, Sarah, E.I.; Cabbage, Laurissa, P.E.; Johnson, Todd, P.E.; and Bilyk, Katya, P.E.—*Hazen and Sawyer*

## FRIDAY, SEPTEMBER 4TH, 2009

- 7:30 am–9:00 am **WVOA Board Meeting** in Crystal Ballroom, Hall 2A
- 7:30 am–9:00 am **CWEA Board Meeting** in Crystal Ballroom, Hall 2B

Continued on page 26

## FRIDAY, SEPTEMBER 4, 2009 (cont'd)

- 8:00 am–9:00 am **Registration** in Lower Lobby of the Conference Center
- 8:00 am **Continental Breakfast** in Upper Lobby of Conference Center
- 9:00 am–10:30 am **Technical Sessions** in Conference Rooms 1, 2/3, 4/5, & 6
- 10:30 am–11:00 am **Break**, Upper Lobby, Conference Center
- 11:00 am–12:00 n **Technical Sessions** in Conference Rooms 1, 2/3, 4/5, & 6
- 12:00 noon **Closing Session & Door Prize Drawing**, Upper Lobby, Conference Center OR Crystal Ballroom, Hall 2B

## FRIDAY—TECHNICAL SESSIONS:

### Room 1

- 9:00 am **Chesapeake Bay Watershed Nutrient Trading in PA: The Experience of Dischargers**  
Johnston, Trudy; Winzeler, Edwin; and Brandt, Robin—*Material Matters, Inc.*
- 9:30 am **Making Chemically Enhanced Primary Clarification Work for You**  
Cassel, Alan—*PEER Consultants*  
Peric, Marija; Neupane, Dilli—*AECOM Water*  
Riffat, Rumana—*George Washington University*  
Murthy, Sudhir, Ph.D., P.E.; and Bailey, Walter—*DCWASA*
- 10:00 am **Planning For Build-Out: A Twist on Wastewater Master Planning**  
Cuneo, Carlos—*Black & Veatch Corporation*
- 11:00 am **How to Troubleshoot a New Pump Station at Start-Up**  
Morin, Derek, P.E.; and Kelleher, Tim, P.E.—*Johnson, Mirmiran & Thompson (JMT)*
- 11:30 am **A Risk-Based Approach to Managing Collection Systems Assets**  
Houston, Brian, EIT—*Black & Veatch Corporation*  
Cole, Sharon, P.E.—*Anne Arundel Co. DPW*

### Rooms 2/3

- 9:00 am **Large Diameter Evaluation and Cleaning: "Where It All Comes Together"**  
Stewart, Jimmy; and Brown, Wayne—*Compliance EnviroSystems, LLC*
- 9:30 am **Rethinking Your Lift Station Contingency Plan: Comparing Backup Power to Backup Pumping**  
Delzingaro, Michael; and Brackin, Dale—*Godwin Pumps*
- 10:00 am **Harford County Prepares for BRAC: Modernization of the Church Creek SPS**

Burns, Bruce, P.E.; and Schulz, Steven, P.E.—*Hatch Mott MacDonald*

- 11:00 am **Pipe Line Grouting—Designing for Longevity**  
Shelton, Jim—*Malcolm Pirnie, Inc.*
- 11:30 am **Combining Hydraulic Modeling with a Business Case Evaluation: Alternative Evaluation for the Steele Creek Pumping Station Replacement Project**  
Fulmer, Jay, P.E.—*Brown and Caldwell*  
Howard, Tom, P.E.—*Charlotte Mecklenburg Utilities*

### Rooms 4/5

- 9:00 am **Evaluation of Process Design Risk of BNR Wastewater Treatment Plants, A Case Study**  
Liu, Yanjin; Giraldo, Eugenio; and Smith, Harold—*American Water*
- 9:30 am **Don't Overlook the Importance of Hydraulics in BNR/ENR System Design**  
Rectanus, Bob; deBarbadillo, C.; Barnard, J.; and Steichen, M.—*Black & Veatch Corporation*
- 10:00 am **Hydraulic Challenges of Retrofitting Wastewater Treatment Plants for UV Disinfection**  
Shirodkar, Nick; and Belschner, Dale—*WSSC*  
Sanjines, Paula; and Weil, Gary—*CH2M Hill*
- 11:00 am **Phosphorous Requirements in a Post Denitrification MBBR at a Combined Limit of Technology Nitrogen and Phosphorous Plant**  
Peric, Marija; Stinson, Beverly, Ph.D.; Neupane, Dilli; Locke, Edward; Kharkar, Kathleen; and Mokhayeri, Yalda—*AECOM Water*  
Murthy, Sudhir, Ph.D., P.E.; Bailey, Walter; Kharkar, Salil, P.E.; Passarelli, Nicholas; Carr, John; Der Minassian, Rouben; Sultan, Marin; and Shih, George—*DCWASA*
- 11:30 am **Condition Assessment of an In-service Force Main**  
Jain, Charu; and Sayan, Paul—*Black & Veatch Corp.*  
DiLego, Tom—*URS Corporation*  
Qadri, Wazir—*City of Baltimore*  
Higgins, Mike—*Pure Technologies*

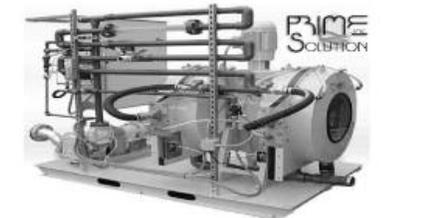
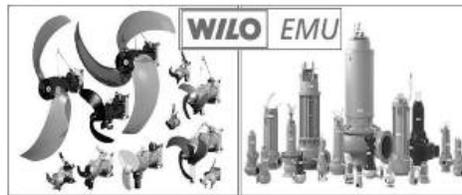
### Room 6

- 9:00 am **Goal Programming For Sustainability In Total Water Management**  
Liner, Barry, Ph.D., P.E.—*George Mason University*
- 9:30 am **Providing Biological Process Flexibility for Nutrient Removal to Meet ENR Treatment Goals**  
Roder, Matt, P.E.; and DeSesa, Stephen, P.E.—*PBS&J*  
Berman, Neil; and Amad, Sam, P.E., DEE—*WSSC*
- This 1-hour presentation is approved for 1-hour process credit*

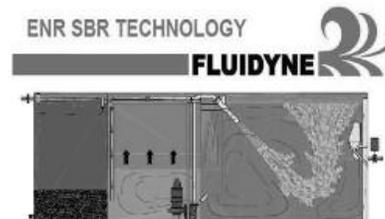
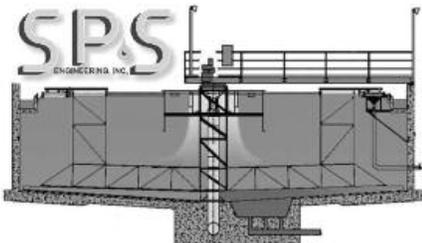
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# WEFMAX 2009 . . . A Long Step

—By Bill Bertera, WEF Executive Director

WEF has just finished the annual round of WEFMAX meetings. Leaders from all but six member associations participated in at least one of the sessions, and sometimes multiple sessions. In all, about 200 WEF leaders gathered to talk and share ideas and experiences about member associations, the water community, how the economy is affecting their organizations and the Water Environment Federation and its role with members and member associations. The sessions were hosted by individual member associations and vice president Jeanette Brown.

All of the sessions were notable and distinctly different from past years. The member association interchanges continue to be a favorite attraction and were characterized, as they always are, by useful tips and innovative programs. There was and is always lots of note taking. But there was something else this year. . . real discussion and exchangers of ideas about sometimes controversial but important issues all organizations in the water community share. . . how to reach plant operators with training and education programs, how to attract and keep members, how to maintain income streams in difficult times, how to serve utilities and how to create a consistent and credible public face for the water community when the community is clearly divided on this point.

With real discussion came something else. . . the beginning of understanding, and that presents the prospect of actually resolving problems that have plagued us all for years and in some cases decades. Nothing better reflects this new willingness to engage than the discussion regarding WEF membership and individual MA only memberships and the disconnects this difference can generate within the larger community, particularly as it relates to serving the plant operator. In this critical area, as in many others, the answer lies in a shared responsibility between the member association and WEF, and the WEFMAX meetings went a long way down that path.

Equally important in this regard were independent discussions held by the House of Delegates at each of the WEFMAX sessions. As has been the case in recent gatherings, there was a lot of talk about the Member Association-WEF relationship and how to make it work better in the interests of our shared memberships. Most notable in each session was an interest in looking forward rather than back. . . recognizing that the water community has responsibilities and obligations to the people we serve and that continuing to dwell on issues of governance was not necessarily the most productive use of the House's time.

There were some emerging themes and realizations that came from the meetings as well. Some of them

new and surprising; others simply a clarification of what has seemed obvious all along. But in the context of our history and the current economic climate, this clarity is important for moving forward. Those themes included but are not limited to the recognition that:

- There is wide diversity within the MA community in staffing availability, financial and volunteer resources, size, scope, geographic responsibility, organization and program capability. No two member associations are the same and no single national program is likely to be equally effective or applicable to all.
- Meeting the training needs of utilities and their operators is a key responsibility for both member associations and WEF; each has a role and their roles are different.
- Integrating younger members of the profession into our organizations is a key concern; incremental integration is not working on the scale or with the speed necessary.
- There is a continued need and interest in bringing together the drinking water and wastewater portions of the water community and efforts at the state and regional level are far more successful than is the case at the national level.
- WEF could do a great deal more in helping member associations share information with each other on issues of accreditation, operator training and engagement of students and younger professionals. The popularity of the WEFMAX meetings strongly suggests this.
- Distance learning technologies are a necessity in a time of constricted travel budgets and WEF could do more to help member associations better meet this need.
- There continues to be a need for training and education on the management of state and regional associations and WEF could do more to help member association leader's better cope with management challenges unique to volunteer organizations.
- WEF needs to take a close look at its data management programs, its pricing policies for training products, and its integration of member association and WEF committees and their activities

There were, of course, lots more to the WEFMAX meetings than these few observations, and I am sure I have missed some. Each of us learned something different and each of the WEFMAX's was different. That is what makes them the important event that they are. But meeting is not enough; resolving is the goal. WEF has taken a long step in that direction this year.

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# It Takes 2: The Importance Of Engineering Working Together With Operations

—By Laurie L. Perkins, PE, CSC Chair

The Chesapeake WEA Collection System Committee (CSC) recently hosted its' annual lunch workshop on the important role communication and coordination play between operations and engineering as it relates to collection systems.

Attendance at the luncheon exceeded 90 with an audience made up of operators, engineers and municipal infrastructure managers. The morning portion of the workshop focused on administrative initiatives, while the afternoon portion highlighted successful project specific initiatives where Engineering and O&M divisions are getting more done by working closer together. During lunch, attendees were able to network with other professionals on current issues facing collection system operators and engineers.



Keynote speaker Phil Hannan

Phil Hannan, PE. of Black & Veatch Corporation was the Keynote Speaker and presented "Engineering from a Field Perspective." Mr. Hannan emphasized the importance of understanding the collection system you are working in or designing improvements for and how critical it is that you be an advocate for what works and doesn't work. Phil's lessons for success "from the field" were as follows:

- Maintain good records and data
- Reducing SSOs and backups is the priority

- Be aggressive, timely and effective with SSO backup responsiveness and investigations
- Practice effective outreach, and
- Take ownership of the work and the system

Phil also talked about the importance of leveraging tools and technology applications such as PACP and GIS to assist with the engineering, operational, or maintenance related challenges you may be facing.



Kurt Westendorf and Brad Edwards

Kurt Westendorf (Civil Engineer) and Brad Edwards (Maintenance Supervisor) from Harford County co-presented "In Harford County, it Takes 3!," a discussion on initiatives they are currently taking to bridge the gap between what happens in engineering and in operations and in maintenance. Harford County created an SSO committee where a representative from all three divisions participates in regular meetings involving SSO issues. The County has implemented a form whereby all levels of the organization, from maintenance to the Council, sign-off on any overflow related activity in order to keep all parties informed. The County also conducts cross training through the three divisions to promote an understanding of each others needs and encourage cooperation.

WSSC's Wastewater Collection Systems Group Leader, Calvin D. Farr, Jr., PE. focused his presentation on some of the "DRIVERS" behind the need and impor-

tance of engineering and operations working together, such as:

- Consent Orders
- Proactive Condition Assessment (SSES, CCTV, etc)
- SSOs, and
- Customer Notifications (Basement Backups, Odor Complaints)

These drivers allow both groups to make critical and necessary decisions in a timely manner. Mr. Farr provided examples on how issues are handled from both the engineering and/or operational side in order to serve their 1,800,000 residents efficiently and effectively. He explained how important it is to know what is going on in the field in order to best understand what engineering solutions to move forward with and what those solutions might mean to the end users, WSSC's collection system operators. Mr. Farr said that the goal "is to have a seamless transition from data collection to condition assessment to design and through construction."



David Watts

Immediately following a networking lunch break, David Watts of Anne Arundel County's Department of Public Works presented "When Engineering and Operations Work Together, You Get the Holistic View." Mr. Watts explained how the County utilizes GIS mapping from its engineering department along with a work order database to manage collection system maintenance activities. One function of the database provides the entire list of sewers requiring cleaning over the next 5 years, but divides it into an annual cleaning program for the operators. County operators have current GIS information via laptop computers and the equipment they need in the field to make decisions and perform maintenance quickly.

A dynamic team of Robert Madanat (Planner II) and Rob Roff (Operations Services Manager) from New Castle County presented "The Tale of GIS within the Domain of the Collection System." Mr. Madanat and Mr. Roff explained that the County's GIS staff acts as a service provider to support engineering and the operations staff and recognizes that the GIS itself will not mature if their "clients" do not buy into the use of the tool in their own day to day work. And, like an engineer or operator, the GIS staff gets their experience from being in the field as well. Some of the programs implemented to support engineering and operations include an Application for Mainline Stoppages, a Preventative Maintenance Tracking Program, an Audit of Sewer Cleaning Activities, and Customized CCTV/Chemical Root Control Projects.

The New Castle County presentation closed out the luncheon seminar with some simple truths:

1. Whether you are in Operations, Maintenance, Engineering, Management or the like, **credibility comes from the field.**
2. In addition to coordination, **cooperation is key to validation.**
3. **Engineering needs to understand the problems of Operations.**
4. **Operations needs to understand the capability of Engineering to solve those problems.**

The CSC thought this was an important topic because CWEA focuses on both engineering and operations related issues; therefore, we wanted to take some time to highlight related success stories in our region. As it becomes increasingly important to use the resources we have to be more effective in the work we are doing, consider the message shared by Phil Hannan to know your system and be an advocate for it through communication and cooperation involving both engineering and operations.

Based on the positive feedback we have received about the topic, the CWEA Collection Systems Committee has scheduled its full day seminar on the same topic for Friday, November 6, 2009 at the Conference Center at the Maritime Institute of Technology. If you are interested in sharing a similar success story, please contact Laurie Perkins at [lperkins@rjn.com](mailto:lperkins@rjn.com) for more information on being a speaker.

# Operator Training A Priority

—By Bill Bertera, WEF Executive Director

One of the conversations that inevitably occur at any WEF gathering involves “operators.” For all the right reasons, those who actually run wastewater treatment plants of all kinds and sizes are always on our minds. These are the members of the water environment profession that actually “do water”. . . they are the front line between public health, environmental protection and the disease and environmental degradation that occurs in the absence of the plants they make work. Consequently, the quality of operator credentials and knowledge, as well as their recruitment and training, are of critical importance to those who supervise them and to the communities our utilities serve.

Conversation, however, gets complicated when it becomes clear that when we talk about operators we are not all talking about the same people. WEF has a category of membership for operators, but a look at that list makes clear that the vast majority of the people on it are not front line operators, but their supervisors in some cases, and in others, engineers who think of themselves as operators. The distinction is important because it is clear there are “operators” and then there are “operators.” Programs directed at one group do not reach the other.

Front line operators, for example, are the people who actually make our plants work. They are not the supervisors or the designers or the utility executives. Front line operators do not have the options of travel or time management for purposes of education and training that other WEF members do. And in smaller plants, they often have duties other than running the facility. They may run snow plows, or cut grass or any variety of other tasks that municipal employees in small communities are called upon to perform. . . and therein lays the nub of the problem.

That, and of course, the dilemma that lumping all operators into a single class (for conversation’s sake) presents in keeping us from addressing the issues of operator training and education. So long as we mix front line operators up with their supervisors, engineers, managers and executives, we are never going to solve the “operator problem.” And that is because there is no single or universal answer to the subject of operator training.

Providing access to training is a primary responsibility for those who run individual utilities. Even when money for travel is not the problem, providing the time is. . . especially for small and mid-sized utilities where the luxury of redundancy is almost non-existent and where utility employees are responsible for other critical municipal services. And then there are the varying requirements for competency of each state which adds additional complexity to issues associated with training operators.

A new service model is needed for training and educating operators. Acknowledging that training is a pri-

mary interest of the utility itself, there is still an important role for public interest associations. That is why professional associations exist...to serve utilities in their training needs. . . for both front line operators and management.

The Water Environment Federation has historically been best at serving those who can travel. That is still the case much of the time, though new distance learning tools and the web are erasing some of the distinctions and benefits. For the present, though, it is clear that even an organization like WEF with all its resources, is disadvantaged in trying to service the needs of the local front line operator. State and regional associations, on the other hand, are better suited for this role because they are physically closer to the utility and can therefore more easily and more economically meet their needs.

This is not to say that even state or regional associations do not have challenges in reaching the critical operator community. But for many reasons, those obstacles are more easily addressed with sufficient resources and planning closer rather than farther from home. And that is where WEF can come in. In the complicated world of operators, WEF’s job is not to train operators but to assist utilities and member associations in training operators. How best to do that?

The first step is to recognize that every state and region is different and that no single model is likely to fit every situation. The second is to recognize that any solution is likely to be heavily dependent upon the resources and programs of the local member association. The third is to acknowledge that some member associations need and would welcome assistance from WEF were it available and easily accessed.

That assistance could take many forms to include curriculum development and support, demonstration projects, distribution and packaging of MA developed sessions to other member associations, introduction of subsidized programming, WEF sponsorship of training modules, packaging and distribution of cutting edge sessions on emerging topics, and local public service messages to suggest just a few possibilities.

The bottom line is that utilities and their operators need access to operator training and member associations and WEF exist to provide that training. A little creativity can go a long way to meeting the needs of our operators and the utilities they serve, but that creativity is dependent upon a close working relationship between the member association and WEF. One of our Midwestern member associations is working with WEF staff on a pilot project to see if we can figure out how best to combine what WEF does best with the assets of a state association to meet that need. This is a start.

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## President's Message

*Continued from page 3*

boards of CWEA and CSAWWA. While this is a preliminary report the momentum towards this type of unity continues.

As I researched similar displays of organizational affection between WEF and AWWA Member Associations (MA's) I found convincing evidence that this could be as contagious as the Swine Flue. Many of our brethren MA's, such as (New Jersey, Virginia, Kentucky & Tennessee, Iowa, and Illinois to name a few), have already demonstrated similar symptoms and have a history of holding joint seminars and or annual conferences. Better yet, there are other organizations that have combined to form new organizations under the names of the Arizona Water Association, The Georgia Association of Water Professionals, and North Carolina AWWA/CWEA also known as NC Safe Water. It also appears that our Canadian counterparts also suffer from the same affliction as noted by the Atlantic Canadian Water and Wastewater Association, The British Columbia Water and Waste Association, and Western Canada Water (formerly known as the Western Canada Water and Wastewater Association).

With those notes I will close by saying that I like the direction we are heading and I will continue to support this organizational unity as long as it appears to benefit our members.

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## Editor's Corner

Continued from page 5

Unfortunately the largest watershed state, Pennsylvania will spend a pittance compared to these two states.

No surprise, agriculture, the biggest nutrient source, will provide 63% of the nitrogen and 61% of the phosphorus, of the planned reductions. Wastewater treatment will provide 22% of the nitrogen and 24% of the phospho-

rus, of the planned reductions. However there were a couple of asterisks beside Virginia's planned nutrient reductions saying they'll still have to figure out how to do it. At least they will be coughing up the most money over the next three years. One side note was West Virginia planning to join Pennsylvania, Maryland and Virginia in establishing a nutrient trading program for the portion of the state in the Bay watershed.

	DE	D.C.	MD	NY	PA	VA	WV
% of watershed	1.1	0.1	14.4	9.7	35.2	33.9	5.6
% of nitrogen	1.8	1.4	21.1	6.4	39.6	27.2	2.6
% of phosphorus	1.9	0.5	21.2	4.7	19.7	48.4	3.5

## CWE Bylaws . . .

**A**nouncing a CWEA membership vote on changes to the Bylaws. Okay, the answer to your first question is, "Yes, CWEA does have Bylaws. They were last revised in 1996." In answer to some of your other questions:

**Why do we need to change the CWEA Bylaws?** The biggest reason is that we need some specific changes in order to qualify for changing the CWEA Non-Profit Organization IRS tax-exempt classification from the current 501(c)(6) to 501(c)(3). [More about that later.] We also need to update our Bylaws to reflect the WEF restructuring that took place a couple of years ago. While we are at it, we want to clean up the format a little and revise some outdated references.

**Didn't we just do this 2 years ago?** You ask some very good questions. That was the Articles of Incorporation, a different legal document that also had to be updated to allow CWEA to apply for the change in IRS classification. Those changes were approved at the 2007 Annual Conference, at the CWEA Business Meeting. Now we need to update the Bylaws and we will be ready to apply.

**How will we know what we are voting on?** A mailing will be made to the entire CWEA membership, sometime around July. In the mailing will be an explanation, a copy of the proposed changes, and a mail-in ballot.

**So all of the voting will be done by mail?** Actually, the voting will take place at the Annual Business Meeting during the 2009 Joint Conference in Ocean City the first week in September. We are providing the mail-in ballots to allow anyone to vote that cannot be there in person on that day, similar to an absentee ballot.

**What should I do now?** Just relax and wait patiently. When we mail out the announcement and ballots, we will also post the information on the WWOA-CWEA website, along with the full text of the current and proposed Bylaws. We will provide an opportunity for you to ask questions via mail, email, or telephone.

**Speaking of questions, who is asking all of these?** We just made them up in an effort to save you time and energy. [As a bonus, we were able to limit questions to those for which we already had answers.]

**You said that you would explain more about the tax-exempt classifications later.** We didn't say how much later, and to be fair that was not a question. The announcement in the mail will provide more detail. If you just can't wait that long, you can contact Alan Will at [awill@jmt.com](mailto:awill@jmt.com) or at 443-834-4432. Afternoons are slightly better as he is on average a bit less irritable then, but that choice is up to you. We plan to wait.



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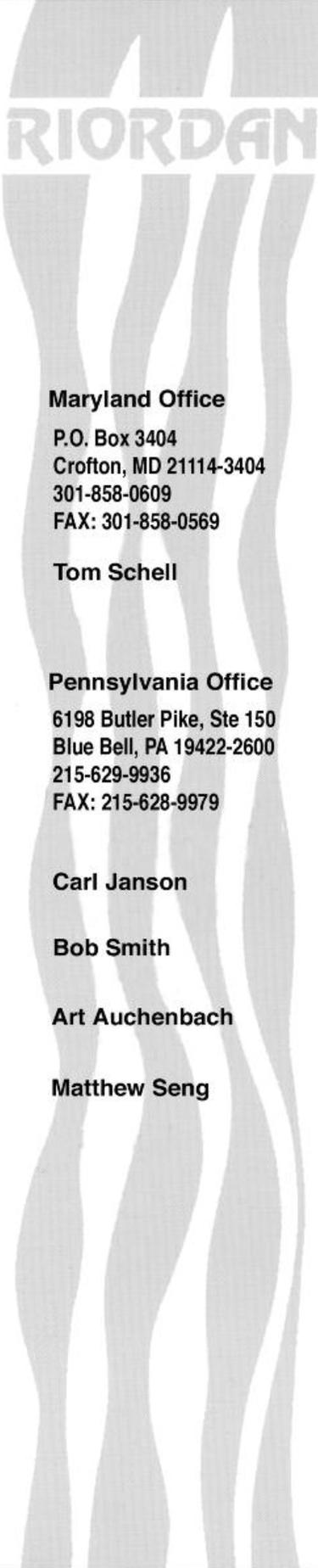
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