

Ecoletter

FALL 2008 ISSUE

Tri-Conference 2008

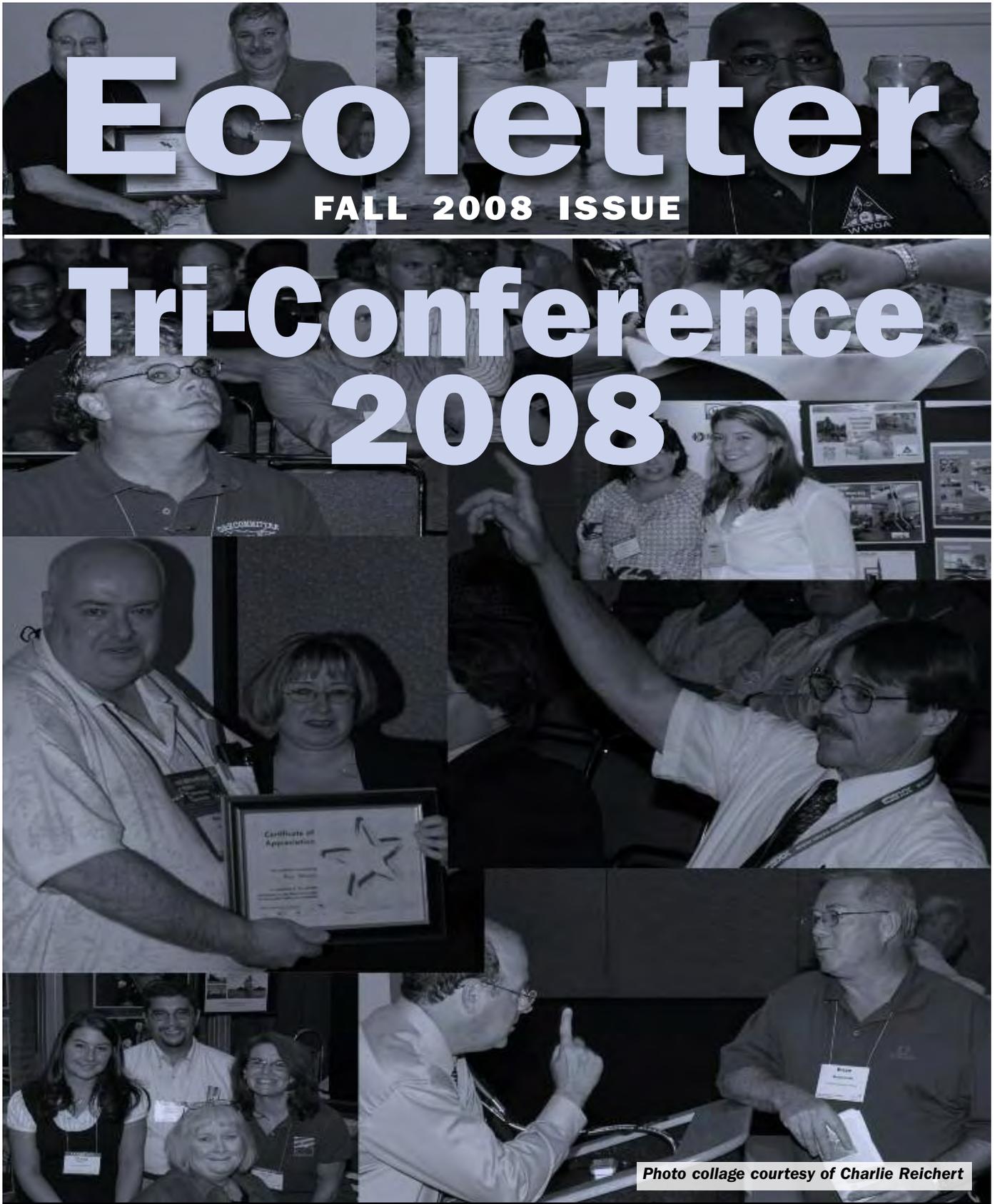


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*A Publication of the
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PRESIDENT'S MESSAGE



WWOA President

—Lewis Schmidt

I want to start off by saying thank you to everyone for another successful conference. I wish to thank each of the volunteers for all their hard work planning and during the conference. I am glad to be your president for a second term. I hope we can have a successful year like years past. I would like to say I am glad we are headed in the right direction. It is up to us to better the world we live in. So we need to do everything we can to help like cleaning up streams and waterways. Be on alert for runoff going into our water and wastewater. Therefore we have to have more training and ideas to make this happen. We also need help on the board and committees. All members and retirees are welcome to join. I am looking for someone to volunteer to find out what kind and how much training everyone needs. If anyone has any questions or concerns please contact any board member or section leader by e-mail or phone. Please visit our web site www.wwoa-cwea.org. for contact information and general information about your organization, including upcoming events. We are requesting pictures and articles about your plants and any organizational meetings for the *Ecoletter*. So please take the time to publicize what is going on. We are always looking for new things and ideas. Please send pictures of your plants and training to the main body board so we can make a collage for the conference and plants. We are always looking for members to present articles to the conference committee about your home plant and/or processes at the plant and any new projects/additions at your plant. We are looking for more teams for the operators challenge please contact the president elect for more information. I look forward to serving as this year's president.

Editors Note: *Mr. Schmidt asks us to be on the alert for runoff going into our water and wastewater. With Maryland adopting new, tougher stormwater regulations because of its worsening effect on waterbodies, the idea of us being runoff policeman is reasonable given our level of expertise and will provide a valuable service to improving water quality. So if you see something that should not be going into a stream or sewer line, take action.*



CWEA President

—Aaron Nelson

I just wanted to say hello to our CWEA and WWOA members. For those of you that know me this story will most likely be a rehashing of my history of which you already know. However, for the rest of you this should shed a little light on me and my path to becoming the current CWEA president and what that means to me.

As I was preparing for my speech during this years Tri Association conference I realized that my life had been running parallel to this organization, and one which hit a significant apex this year with a dramatic change.

I am originally from the City of Virginia Beach, Virginia and have a nice network of family and friends. During my life in that area I also enjoyed many activities that involved water such as surfing, swimming, boating, fishing and snowboarding. While I was participating in these extra circular activities I established a tight network of friends that enjoyed this same list of water sports. During my life in Virginia Beach I learned from these same friends of term that is used to refer to someone that excels at this water related lifestyle. The use of this term to describe someone is of the highest level of respect and Honor and is reserved for those with long standing and indisputable significant all round aquatic achievements. This term is "Waterman," and it was my goal to eventually achieve that level of respect and for the most part my life revolved around those activities.

Then in 1998 I took a big step in my career and relocated to the City of Baltimore. This was strictly a career move as I did not have family, friends or even a network of business contacts in the area. I quickly realized that if I wanted to find out more about water and wastewater industry in the region, so I joined the CWEA in 1999. The impact on life was almost immediate and shortly there after I established a great network of friends and business associates.

Between 1999 and 2004 I noticed a great deal of growth in the CWEA that was especially evident during the annual conferences by the number of attendees and exhibitors. It was during this same time frame that I also observed change on a similar magnitude. It was during this time frame that my friends Jim Webber and Hank Hulse introduced me to new and additive lifestyle that involved golf. This change was most evident in 2004 when somehow my surfboard was replaced by a bag of golf clubs as must have items for my trip to Ocean City. My friends in Virginia Beach are still recovering from the shock of that news.

Continued on page 31

Ecoletter

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CALENDAR OF EVENTS *Winter/Spring*

January 9, 2009
Abstracts due for 2009
Joint Conference

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TABLE OF CONTENTS

President's Message	3
Editor's Corner	5
In Memoriam: Gary Wyatt	8
2009 Call for Papers	12
Tri-Conference Photos	14
My Schooling at the Conference	16
Ops Challenge	20
Tri-Conference Photos	22
Pre-Conference Session	24

Opening Ceremonies	28
CWEA Lunch Meeting	29
WWOA Lunch Meeting.....	30
Tri-Conference Awards.....	33
Awards Presentation Photos	37
Committee Fest	38
Biosolids Beauty Contest	38
Seacrets Night Photos	39

EDITOR'S CORNER

If you want to learn more about sediment in the Bay, we urge you to read the September 2008 issue of Chesapeake Quarterly, a publication of Maryland Sea Grant College.

Like just about everything else in the Bay, nothing comes simple when it comes to sediment. The complexities start with the fact that the Bay needs sediment for nutrition and marsh replenishment. And despite what you might think, the heaviest sediment loads occurred in the 18th and 19th centuries when wanton deforestation took place. So why then is water clarity worse now than then? One finding is sediment particles are getting smaller and more liable to remain suspended as if re-suspension and forces that work on the particles are becoming factors. These particles are so small that the two main methods of measuring clarity; Secchi Disks and light meters not only disagree, but increasing show divergent results. Disturbing as that is, experts say interactions between inorganic and organic material may be at play in the continuing Bay degradation. Not surprising, experts have a variety of opinions on what is going on but do agree that they don't really know the how's and why's of the effect of long-term sediment loads to Bay health.

* * * *

Down in Alabama, Jefferson County, the most populous in the state, is fighting to avoid the largest municipal bankruptcy in U.S. history. The trouble stems from a \$ 3.2 billion sewer debt. In these difficult times there are sure to be similar situations elsewhere and associated efforts to scale back infrastructure improvements. All of us know the importance of clean water and in times like these we need to make sure decision makers don't muddy the waters.

* * * *

If these tough economic times weren't tough enough, voters in Pennsylvania were asked to approve a \$400 million bond issue to pay for improvements to wastewater systems to support Bay water quality standards. And they did. It was heartening to see this kind of commitment made by a state with no Bay front property. Give Pennsylvania a hurrah!

* * * *

There could be a light at the end of this dark economic tunnel in the form of the Marcellus Shale formation. Contained within that formation is massive amounts of natural gas and newer drilling techniques using hydraulic fracturing can release the gas. If you are an owner of a chunk of land in the Susquehanna or Potomac watersheds, chances are companies have contacted you about drilling on your land. Not only can this be a way to make extra money for landowners, it

can be a revenue source for cash strapped state and local governments with land holdings. Each well can take up to 4 MG and one possible source of that water is wastewater effluent and the sale of that could be another money generator. However the issue of where to get water and what to do with the chemical laced water left over from the drilling remain big concerns with this gas drilling. We should not sacrifice our surface water and groundwater to get at energy sources. They cannot be a repeat or what the coal industry did, and is doing, to Appalachian streams.

* * * *

Up in Chester County, Pennsylvania, a WWTP operator failed to renew his operator license and now faces steep fines and serious time behind bars for operating a plant without a license. This is yet another reminder of our professional responsibilities.

* * * *

Another invasive, non-native animal has invaded Maryland. The Rusty Crayfish from the upper Midwest is taking up residence and squeezing our smaller native crayfish. This big eater is raising concerns about upsetting aquatic eco-systems. The news is better for another non-native animal. The giant muskrat called the Nutria is in the process of being passenger pigeoned out of the Bay region. With the on-going eradication effort on the eastern shore meeting with success, within five to ten years there could be no more swamp eating, land denuding Nutria in Maryland.

* * * *

Tom Horton, the famed Bay writer, has taken up a most controversial topic that he says needs to be talked about. In his paper, Growing! Growing! Gone! The Chesapeake Bay and the Myth of Endless Growth, he takes on the ultimate Yes/But issue related to the Bay; population controls. Almost everyone acknowledges that the 17 million and growing population of the watershed is the root of all pollution but almost no one is putting forth ideas to seriously control it. What can one expect when that issue has economic, political, religious and international ramifications? Dare we say what is the TMDL for people in the Bay watershed?

* * * *

Speaking of TMDLs, the beleaguered and increasingly beloved Anacostia River will be the first body of water in our region to receive a TMDL for trash. Using experience gained from implementing a trash TMDL for the Los Angeles River, a largely paved stream that has to be the most ridiculous looking river in the U.S., Maryland will issue a TMDL for the Anacostia. Let's see, total maximum daily load of trash for a river? Try zero!

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In Memory Of Our friend Gary Wyatt



We regret deeply to inform our members on the passing of our colleague and friend Gary Wyatt. On October 5, 2008 Gary Wyatt, of Eldersburg, MD., passed on. He is survived by his wife, Joann Nolan, daughter Holly, son Patrick, brother and sister-in-law Joseph and Mary-Beth Brzuchalski, nephews Michael and Matthew, and faithful dog Scrapple.

He was a proud, retired Chief Engineer of the Baltimore City Bureau of Water and Waste Water and a long standing member of the Chesapeake Water Environment Association. He most recently became the Vice Chair of the Collection System Committee and also received the Golden Manhole award at this year's annual conference. He dedicated his entire career to serving the citizens of Baltimore City by improving the City's aging infrastructure. His dedication to the community and to our industry was exemplary, and he will be dearly missed.

His family was greeted by a heavy volume of attendees to his funeral proceedings, which is an indication of the truly positive impact Gary had on our community and the great deal of respect we had for him. In place of flowers the family chose to have donations sent to Water for People, a charity that Gary had been actively supporting the past three years. In honor of Mr. Wyatt we are renaming our annual golf outing in his name. What used to be called the Ed Norton Open, a name picked by Gary, will now be called the Gary Wyatt Memorial and will be held in June of 2009 with proceeds donated to Water for People.

I would like to leave you with three eulogies presented at his funeral.

By Carlos Espinosa

First I want to thank Joann, Holly, and Patrick for asking me to speak to you about my colleague and friend Gary Wyatt. Last night I thought about what would be the best way to portray Gary. I came to the

conclusion that the best way to describe him would be to tell you the things that impressed me the most about Gary...and believe me, there were many...so many that I could spend the rest of the day talking about it. So...I will tell you the three things that impressed me the most:

First, and probably the one thing that impressed all of us, was his love for his family. A love that was present in everything he did. To hear Gary talk about the love of his life Joann, or about his little girl Holly, or to hear Gary the proud father talk about his son Patrick was inspiring.

The second thing that inspired me the most about Gary was how gentle, kind, sincere, calm, and level headed Gary was. I met Gary in the early '80, and I remember coming to his office at the Water Analyzer's Office to review some data we had collected in the field. I was a young and inexperienced engineer, two years out of college, pretending to know what I was talking about. Well...I learned quickly that I did not know what I was talking about. Gary set me straight, and he did it kindly, without embarrassing me or making me feel stupid.

The third thing that impressed me the most about Gary was his work...meaning his expertise, his professionalism, and his work ethics. Gary dedicated his entire career to serving the Citizens of Baltimore and to serving our industry. As many of you know, I spent the past four years working in the City of Baltimore Wet-Weather Program, interacting with Gary almost daily. I cannot recall one instance when I went to consult an issue with him and did not get an answer or the guidance to get the answer. Even after retirement, some of us continued to rely on his expertise and knowledge, and in a couple of occasions invited him to attend meetings, which he gladly did pro bono.

So...in closing let me summarize Gary Wyatt. A kind, sincere, gentle, and wholesome friend; a top-notch professional engineer; and a man who loved his family dearly. We'll all miss him.

By Aaron Nelson

It is with Great Honor and Regret that I am here speaking on Gary's behalf, and I only hope that I can borrow his emotional intelligence to share my thoughts with you today.

As I tried to prepare for this moment I realized that Gary found a place in my heart as if he were family, and judging by the number of people I see I think he has done the same for you.

The first things that came to mind for me were all of the reasons why I thought this event was incredibly unjust and should have never occurred. I then realized that Gary had left a positive mark on me that will last for ever, and in this light I realized his positive impact is much stronger than this unwarranted event. So today I would like to share those things that I feel make Gary a great man.

I admire the way Gary spoke about his family in glowing and positive ways even as he was working his way through what I perceived as troublesome events.

I respect his dedication to his job and service to the community during his many years working for the City of Baltimore.

I love the quite demeanor in which Gary carried himself at all times.

I truly appreciate his passive and effective leadership skills. In fact, there were a great deal of times that I was glad when I was not in his shoes as he communicated with many civic groups and the press trying to convince them that things were changing for the better.

I am certain that as you are listening you have come up with other positive aspects, examples, and stories, and I only hope that you allow those thoughts to dominate your mind from this day forward.

Lastly, I will share with you an image of Gary that always brings a smile to my face.

One day Joann, his wife, told me that Gary used to play guitar in a band, and at that moment I tried to visualize him in that setting. It was then that I developed this lasting image.

I pictured Gary in his late teens, early twenties with long wavy blonde hair, a bandana, a bold stance and a confident smirk holding a guitar and living the life.

So today I invite you to choose to remember all of the positive things about Gary as these are the things that will transcend these tumultuous times. And if need be you may borrow my secrete image of Gary as the young Rock Star.

By Hank Hulse

First of all, Gary was my friend. I met him about 30 years ago when he started with the City of Baltimore. I recall some of our early conferences in Ocean City. Gary was eager to learn, made all of the technical sessions, but still found time to play in the tennis tournament and join in the fun after hours.

When I returned to the Maryland market about 15 years ago, I got to renew my friendship with Gary and, most enjoyably was getting to know his family. Gary was so proud of Holly and Patrick and you knew in an instant Joann was the love of his life.

He never failed to tell you about Patrick and his achievements in Rock Climbing or Lacrosse; or of Holly's successes as the greatest salesperson in the world.

On the Golf course I can only say he was a joy to play with. I once joked that his greatest fault was he stood too close to the ball; After he hit it.

In the office, he was the rock; he was the one everyone came to when there was a problem. He never failed in anything he attempted. And he never looked for acknowledgement; his gratification was in knowing he did a great job.

Last night his former boss, George Balog was at the viewing and he was talking about his 30 years with Gary. Those of you who know George knew that he ran a tight ship. He said he was always pushing his people to go the extra yard and do a better job and of his more than 6000 employees, Gary was the only one he did not have to push, he knew Gary would do the job right.

I recall a poem someone wrote many years ago which I think many of the lines describe Gary, and I think you will agree this could have been written about Gary.

*He was hardworking, thoughtful, sensitive and kind,
An honest warmhearted man
Simply a person who did his best to live
Life as well as he can;*

*You will probably not see his name up in lights,
His goal was not glory or fame,
He may not be chosen man of the year
And all may not remember his name;*

*He most highly values the people he loved.
And to him Friendship was a prize.
Contentment with life could be seen on his face
And happiness shined in his eyes;*

*He shared what he had with people in need,
He found time to help those in distress,
He may not be famous, he may not be rich
But in life, this man was a success.*

Gary was rich is so many ways, his family, friends and coworkers and will be missed not only by his family and friends but by this entire community.

I remember the line at the end of the book *It's a Wonderful Life* "No man is a success without friends" We will miss you Gary.

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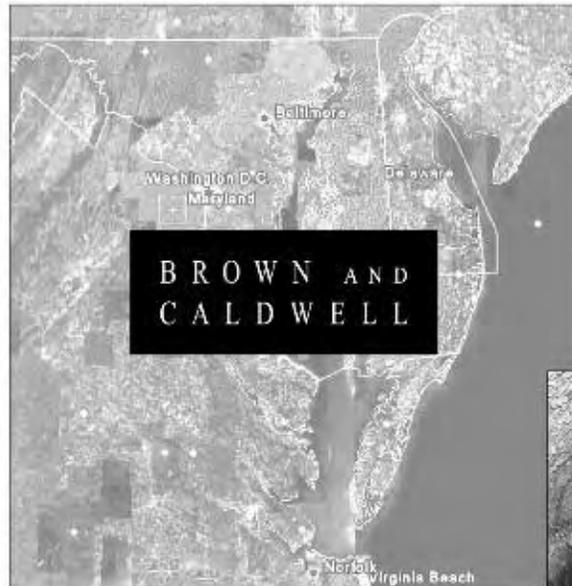
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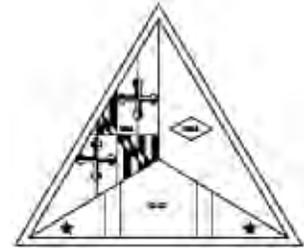


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CWEA/WWOA 2009 JOINT CONFERENCE

September 1-4, 2009
Clarion Fontainebleau Hotel
Ocean City, Maryland



The Chesapeake Water Environment Association (CWEA) and the Water & Waste Operators Association of Maryland, Delaware & the District of Columbia (WWOA) will jointly hold their annual conference and exhibition September 1-4, 2009. In addition to the exhibition and social events, the cornerstone of the conference will be the technical sessions for the formal presentation of papers on wastewater conveyance and treatment and related topics.

SUGGESTED TOPICS: *Wastewater Or Industrial Treatment; Conveyance & Collection Systems; Watershed Management; Water Reuse; Residuals Management; Research; Regulations; Innovative Treatment Technologies; Disinfection; Security; Safety; Utility Management; Energy Management; Financing; Customer Service; Planning, Design & Construction; Operations & Maintenance; Case Histories*

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Abstracts are due by January 7, 2009. Please present sufficient information to enable a knowledgeable program-review committee to evaluate the material you wish to present. Authors will be notified of acceptance or rejection of their papers in March 2009. Speakers will be required to pay all applicable conference registration fees and they must pay their own travel expenses, lodging and meals.

Title of Paper: _____

Author(s): _____

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Tri-Conference 2008 Attendees...



... and Exhibitors



My Schooling at the Conference



—By Floyd B. Johnson, Ecoletter Co-editor

With over 100 papers to choose from there were plenty of opportunities to become educated and enlightened at this year's conference. Once again the biggest problem was picking which presentations to attend and the biggest satisfaction was the learning I was given. It dawned on me this year there was a multitude of papers on technologies, equipment, processes and ideas that years ago I had not dreamed of or had laughed at as impractical, are now flourishing. Maybe it helps that I have more perspective than most not working (well not much) in the water business but the unstoppable two step march of science and engineering that changes and leads our industry, was especially on display this year. With that, here are some of the papers I had the pleasure to attend this year:

Planning and Membrane Equipment Selection for the 15 MGD Ballenger- McKinney ENR WWTP Expansion.

This challenging project upgraded treatment with an MBR process with 2mm fine screens and methanol addition, and increased capacity on a tight site with plants on either side of Ballenger Creek. The MBR equipment was pre-selected using a process made up of 70% cost factors, and 30% non-cost factors. Since membranes are expected to last 7–12 years, a 10-year present worth analysis was used. Another feature of this project was a five year equipment and service warranty.

The Moving Bed Process for Nitrogen Removal—Leveraging this Flexible Technology to Meet Your Specific Needs. MBBR's or Moving Bed Bioreactors started in the early 1990's, with the first U.S. installation in 2003. Numerous, small sized, high surface area media are placed in a bioreactor to provide a combination of a suspended growth and fixed film activated sludge process. Another term to describe this technology is Integrated Fixed Film Activated Sludge. The advantage of this approach is low head loss, use of small volume tanks and long life of the various shaped media. Because this is a new technology vendor's knowledge can be better than engineers when it comes to implementation. Also managing intellectual property will be an issue. A notable U. S. installation is the 77 MGD, Fields Point WWTP in Rhode Island.

Combining MBR Technology with Aesthetic Design Elements to Create a Futuristic Wastewater Treatment Facility. The future here was a creation of an environmental campus, taking the concept of being a good neighbor to being a focal point for a Northern Georgia community with educational programs, old mill style architecture and high level of treatment. A design/build

approach was taken to install a Zenon MBR process with on-line flow equalization after the MBR, many tanks underground and extensive odor and noise control. No surprise the project did not come cheaply with a total cost of \$126 million or \$8.30/gal.

Waste Biodiesel Glycerol 101: What You Need to Know About Purchasing, Handling and Utilizing Waste Glycerol as a Supplemental Carbon Source. Biodiesel has gotten a lot of attention as fuel for vehicles, now it is being used as a carbon source for the denitrification process. Recently biodiesel production went up five fold in a two year span. In fact some of this product is being manufactured specifically for wastewater treatment. The advantages of glycerol over the most prevalent carbon source, Methanol, are no fire or viscosity issues, and a higher COD. Also glycerol can also provide a hedge against methanol supply disruptions. However until prices come down the future of glycerol in the wastewater treatment business is uncertain.

In addition to glycerol, several papers discussed using other carbon sources including, sugar water, waste sugar/molasses, sludge fermentation, and proprietary products from agriculture. A few years ago Methanol was the only game in town, which is certainly not the case today.

Blue Plains Pilots Post Denitrification MBBR to Achieve Limit of Technology ENR Performance.

Demonstrating how far MBBR has come, pilot testing was conducted at the largest WWTP in the Bay watershed to determine how feasible it was in reducing nitrogen to 3 mg/l. The surface loading rate driven design with tanks filled with 30% small floating media was subjected to variable loadings and temperatures and assessed for phosphorus removal. While the process performed well, the testing helped show it will not be most cost effective for Blue Plains.

Construction Coordination at Patapsco WWTP—(Ten Pounds of Sugar in a Five Pound Bag).

Over the next three years, driven by a consent decree and millions of Bay Restoration Fund money, a very intensive project will be undertaken at Patapsco WWTP. Construction coordination of five separate contracts on a small site with hazardous materials thrown in will certainly be challenging. Simple things like parking and getting contractor personnel to and from the plant will be anything from simple. And maintaining existing operations while all the work is going on will add to the difficulty. I'm sure we'll hear more about this important gray hair producing project in the future.

Quantifying Sustainability Through Carbonfootprinting of Alternative Enhanced Nutrient Removal Technologies. The concept of a carbon footprint for a WWTP was

explored to address the issue of sustainability. All direct emissions (from the treatment processes—e.g. nitrogen gases from denitrification, vehicles and anything that consumes fuel) plus indirect emissions (product purchases, travel, waste disposal) minus offsets (power generation, land application of biosolids) can be calculated using software models. Carbon trading of direct emissions can take place in the Chicago Carbon Exchange and both direct and indirect emissions are possible using the Climate Registry Exchange.

Not one, not two but three papers were given on the planned design improvements to the **Western Branch WWTP**. Full scale testing of the existing plant to determine optimization opportunities and comparing performance of coarse and fine bubble diffusers in the High Rate activated sludge system were conducted. The testing showed waste rates in the High Rate process needed to be higher to support lower MLSS levels which in turn stopped a low DO situation in that process. A major consequence of having to get more solids out of the process will be the need to provide additional solids handling capacity. The existing two incinerators cannot do the job. Testing also showed that use of fine bubble diffusers in the High Rate system, which is not preceded by primary clarifiers, to be problematic. While fine bubble cost savings in higher SRT processes can be 40-50%, in the low SRT High Rate process, the savings was only 13%. Using the results of the full scale testing along with modeling, the plant will be modified to include a hybrid system of coarse and fine bubble diffusers in the High Rate process, an anaerobic selector in the High Rate process, better return sludge pumping, better grit removal, clarifier baffling, plug flow and step feed and expanded solids handling capacity. The modeling determined that reten-

tion of the three activated sludge processes was better than converting to a two sludge process.

Maximizing the Benefits of Nutrient Trading in the Chesapeake Bay Watershed. In 2005 Virginia adopted the first trading program in the watershed. It is extensive, with 110 plants participating and not only allows point source trading but point to non-point source trading to accommodate growth. Maryland adopted a trading program in 2008 and is not as far along. Pennsylvania also has a trading program but improvements need to be made to it so that it is fair and proper. While state programs are a start, interstate trading would be an improvement because it would create a bigger market. It follows that the best trading program would be watershed wide. After all the ultimate goal is improvement to Bay water quality. However implementing such a program will be a federal case given the impediments of State borders.

The Housing Boom/Bust Cycle: How it Affects Municipalities and the Infrastructure Funding Gap. With real estate values taking a tumble it is good to keep in mind that historically the housing boom/bust cycle runs 18 years and produces a 30% reduction or lately on the scale of a \$6 trillion reduction in home equity. In Delaware this adds up to a big loss of revenue sources especially when property and transfer taxes account for more than half of all local revenues. The current bust comes at a time when infrastructure needs are booming. It is essential that periods of slow growth be planned for and one method is to increase fees such as impact and annexation fees when things are booming. To help municipalities handle tight revenue times, EPA funded a financial dashboard that can be used for planning purposes. More information can be found at www.efc.boisestate.edu.

Presentations



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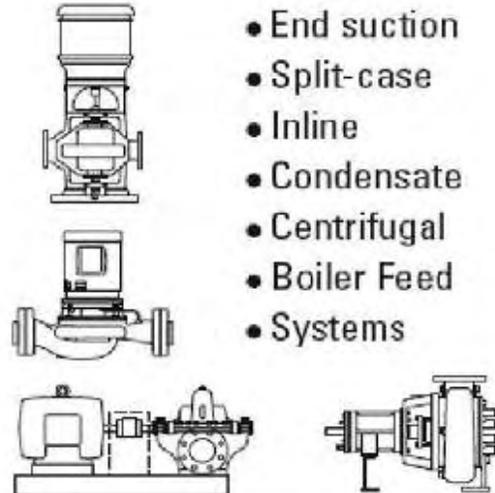
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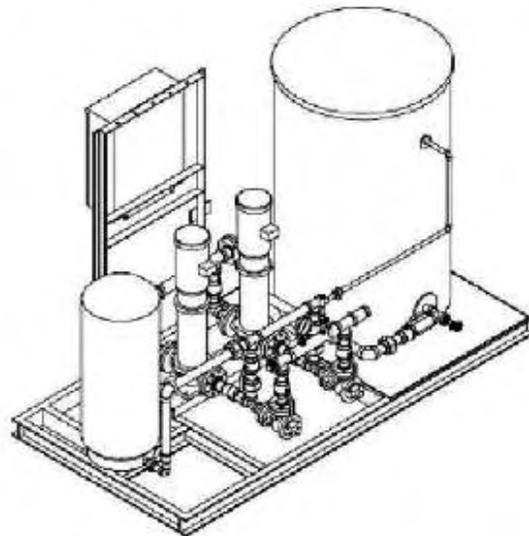
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Ops Challenge Competition



—By Kraig Moodie, Collection Systems Committee

During the week of August 25th, the CSAWWA, WWOA and CWEA held their annual Chesapeake region Tri-Association Conference in Ocean City, Maryland. An addition to this year's conference included the 1st Annual Ops Challenge, Operation: OC2, an event that allows operators to compete in multiple events that highlight critical skills needed in collection and treatment system operations. The event brought 7 teams from across the region: Delcora, PA; Richmond, VA; Spotsylvania, VA; Virginia Beach, VA; DCWASA, Washington D.C; Suffolk County, NY; and Greenwood, SC.

The challenge was exciting for both the competitors and their audience as each team demonstrated its excellence in the following events:

Process Control—The exam was taken as a team and included 55 multiple choice, 5 short math, and 3 operational scenario questions with a bonus for teams finishing under 20 minutes.

Laboratory—Teams performed all steps of a BOD analysis using Thermo Scientific equipment including the use of transfer pipets for planting seed correction series and sampling

Pipe Cutting Shootout—Individuals from each team compete against one another to see who can cut a piece of pipe the fastest using a handsaw.

Maintenance Event—This event tested the skills of the maintenance/operating team to respond to a lift station pumping outage and the need for an emergency back-up pump at a lift station.

Collection System Event—Teams simulated connecting a 4-inch PVC lateral sewer to an existing 8-inch PVC sewer pipe while in service (i.e. water running through the line) and the programming of an automatic sampler.

Safety Event—Teams performed a rescue after finding a coworker at the bottom of a simulated (confined space) manhole. Teams had to set up a retrieval system, perform a permit required confined space entry, and remove the victim from the hole. One team finished this event in just over 3 minutes!



Trophies were given to all 1st and 2nd place event winners. The overall winner of this year's trophy was Team Terminal Velocity, from the City of Virginia Beach, VA.

Congratulations to all the teams and thank you for participating! We look forward to next year!

The operations challenge committee will be contacting the municipal membership of CWEA to try and assemble additional teams for competition next year. If you are interested in learning more about how the competition works or what is required to participate on a team please contact Kraig Moodie at kraig.moodie@adsenv.com or John Fletcher at cmom@dukes.com for additional information.



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Pre-Conference Session, Tuesday, August 26, 2008

Topic: Sustainability and Infrastructure

A. SUSTAINABILITY PANEL

Sustainability has become a popular topic in mainstream business media. Essentially, sustainability refers to manmade actions that strive to balance social, environmental and economic objectives. In practical terms, this means due consideration for the people, the planet, and economic profit in ways that sustain or prolong those three entities. Sustainability will be a critical issue for the 21st century as organizations try to address unprecedented growth in a world suffering from serious natural resource and environmental regulatory restraints. New approaches and new ways of doing business will be required.

Three panelists gave presentations from diverse perspectives, i.e., a large water/wastewater utility, an electric power utility, and corporate America.

Mike Porter, Acting Deputy Asset Manager of WSSC, spoke on WSSC's programs to sustain WSSC's mission of providing safe reliable water to the community and returning clean water back to the environment. WSSC is the 8th largest water and wastewater utility in the United States. Its service area comprises more than 1000 square miles that is home to 1.8 million residents. WSSC is facing the same problem that is confronting water and wastewater utilities across the nation—their infrastructure is decaying faster than it is being restored. One example is the water main piping system.

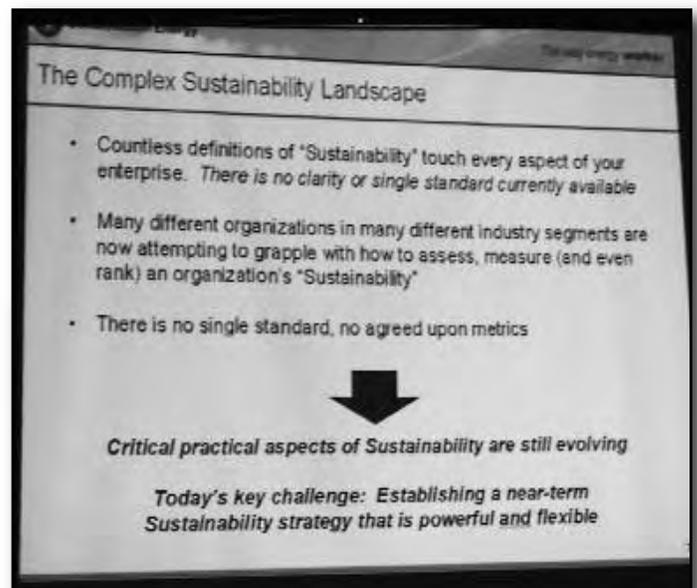
Over the past years, the number of water main breaks is increasing ever year. In year 2007, a record high of 2,129 main breaks occurred. With a total of 5500 miles of piping for carrying drinking water, approximately 1,380 miles were installed prior to 1957. Moreover, piping that was installed as recently as the 1980s is deteriorated and needs replacement or rehabilitation. Currently, WSSC intends to replace 26 miles of water main every year. This means it will take about 200 years to complete the replacement cycle. In the mean time, many water main breaks and associated service disruptions are expected to occur. Cost cutting measures undertaken in the 1990s, reduced personnel

who were involved with preventive inspections of water mains. Lack of funding is a key limiting factor in WSSC's attempts to be sustainable.

On a national basis, the US Environmental Protection Agency estimates that the nation's water and wastewater systems need an investment of up to \$1,200 billion dollars over the next 22 years.

Note: Compare EPA's numbers with the reported record-high federal budget deficit of \$455 billion reported in October 2008 and this does not include the costs of the \$700 billion financial bailout package passed by the US Congress on October 3.

Greg Fox, Director of Business Development for Constellation Energy, discussed CE's ongoing 6-year partnership effort with WSSC that is aimed toward assisting WSSC with managing, procuring, and using energy more wisely. Some of the improvements include: two onsite generators that enable WSSC to reduce costs for peak power demands, variable frequency drives (VFDs) installed on pumps and air handlers, fine bubble diffusers, and dissolved oxygen control. The CE/WSSC project serves as an industry model of how innovative knowledge and expertise can help CE's customers lower their energy costs, reduce their overall electrical load requirements, and increase their use of renewable power through long-term green power agreements.



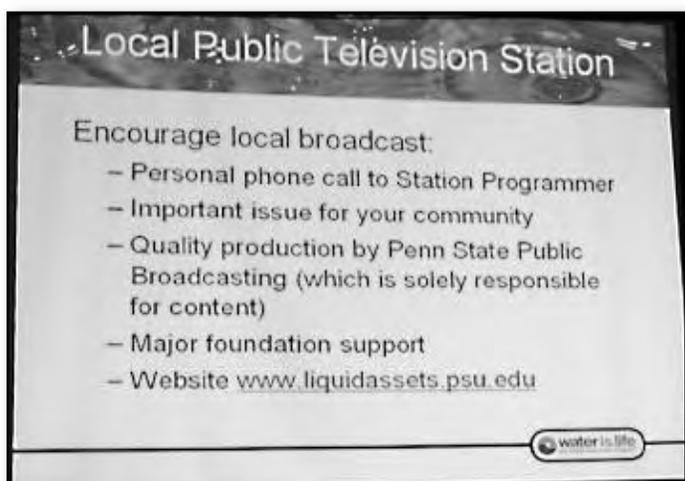
Suzen Adams, of *Weston Solutions*, presented the point of view a consulting firm that specializes in sustainability. Weston delivers integrated sustainable solutions for projects involving environmental restoration, property redevelopment, design/build construction, green buildings, and clean energy. One of Weston's projects was to determine how organizations were addressing sustainability. Weston conducted in-depth interviews with leaders of approximately 75 organizations from both public and private sectors. The feedback was compiled and then reviewed to identify common elements of successful strategies. The majority of the organizations had moved past issues such as debating the claims of global warming and they are pursuing sustainability as good business. Energy costs were frequently cited as a key driver. To attract top professional talent, organizations must become environmentally friendly. Many developers have adopted the green building standards such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program.

B. INFRASTRUCTURE PANEL

Loraine Loken, of the *Water Environment Federation*, gave a presentation in two parts. The first part of her theme on "Water Is Life—Infrastructure Makes It Happen" was given during the Infrastructure panel and the second part was given during the Opening Remarks. Both parts will be covered here.

"Water is Life" is a Water Environment Federation (WEF) advocacy program designed to assist water and wastewater service providers in communicating the value of our nation's infrastructure. Go to website www.waterislife.net to obtain a "Liquid Assets" DVD and information kit. "Liquid Assets" is the name of another infrastructure advocacy program that comes out of the Pennsylvania State University. "Liquid Assets" is a public media and outreach initiative that seeks to inform the nation about the critical role that our infrastructure plays in protecting public health and promoting economic prosperity. Go to www.liquidassets.psu.edu.

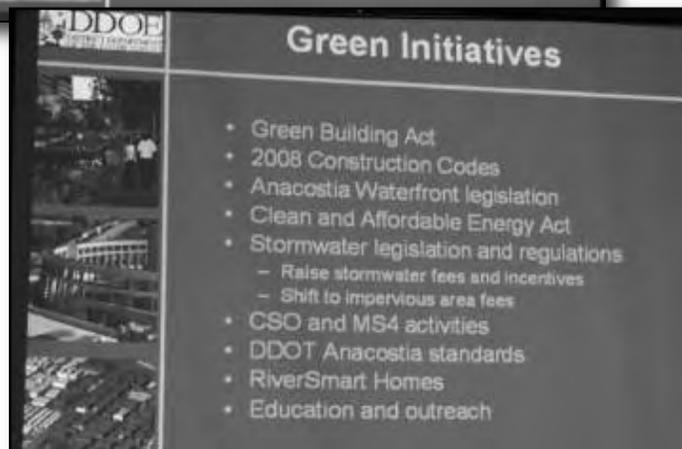
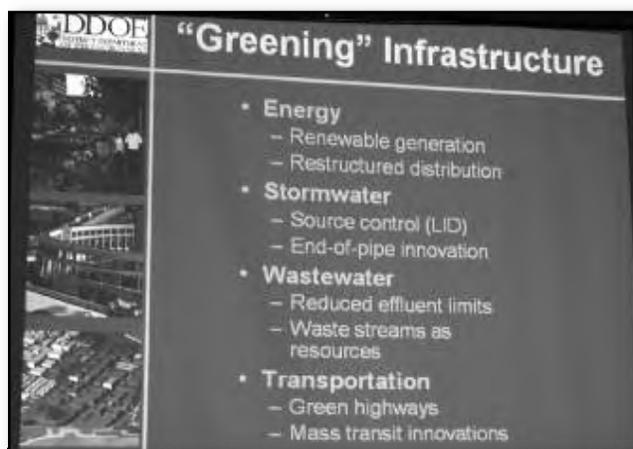
Today the US population is about 304 million people



each of whom needs about 100 gallons-per-day of potable water. Philadelphia was first city with a public water system. Our parents and grandparents paid for investing in the installation of water and wastewater pipes underground. Clean Water Act of 1972 set up a grant program for wastewater infrastructure. The Safe Drinking Water Act of 1974 set up quality standards for drinking water. Unfortunately, our generation has not funded the needed maintenance for the infrastructure. Sewer and water rates have never been reflective of the true cost of service. Growing populations are over-burdening systems originally designed to serve much smaller communities. Thus, we are leaving a sizable deficit of neglected infrastructure maintenance our children and grand children.

Loraine encourages us to engage in public campaigns for infrastructure improvement. It helps to connect water/wastewater issues with quality of life issues. For example, Los Angeles needed to protect beaches from dirty water that appeared after a rain event. Clean water means jobs, etc.

Brendan Shane, a lawyer with the District Department of the Environment (DDOE) in Washington D.C., presented on the role of real estate development for DC. The role is to develop the vision needed to demonstrate the critical importance of environmental and social benefits of adapting sustainable development practices.



Continued on page 26

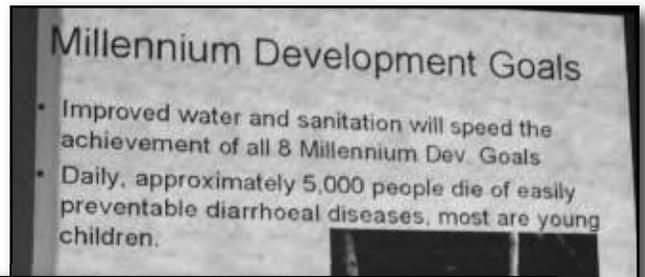
Pre-Conference Session

Continued from page 25



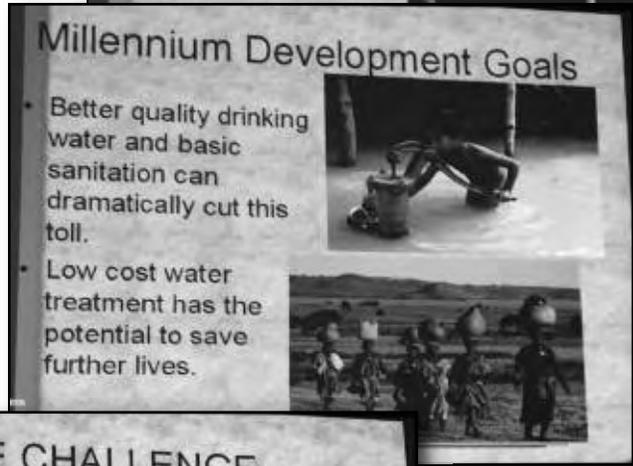
Millennium Development Goals

- **Ensure environmental sustainability**
 - Integrate the principles of sustainable development
 - sustainable access to safe drinking water
 - Improved water and sanitation will speed the achievement of all 8 Millennium Dev. Goals
 - Daily, approximately 5,000 people die of easily preventable diarrhoeal diseases, most are young children.
- **Develop a global partnership for development**
- **2008 World Water Week at Stockholm**
 - Slow Progress and Failure in meeting Goals
 - Global Water Crisis



Millennium Development Goals

- Improved water and sanitation will speed the achievement of all 8 Millennium Dev. Goals
- Daily, approximately 5,000 people die of easily preventable diarrhoeal diseases, most are young children.

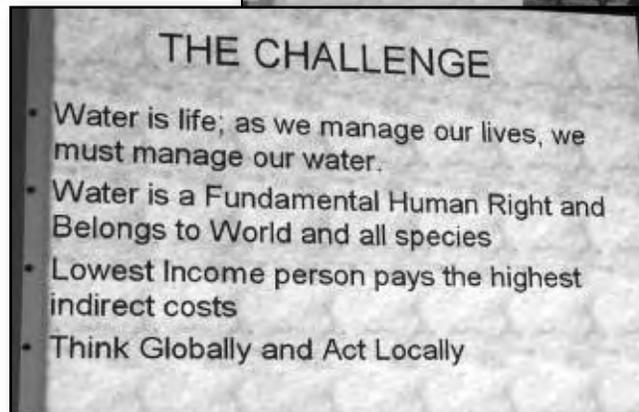


Millennium Development Goals

- Better quality drinking water and basic sanitation can dramatically cut this toll.
- Low cost water treatment has the potential to save further lives.



Dr. Nandan Vani, Director of Water and Wastewater, PEER Consultants, presented on the need for projects that create water infrastructure in Africa. Some people in Africa must take a walking trip of several hours to obtain potable water for their home.



THE CHALLENGE

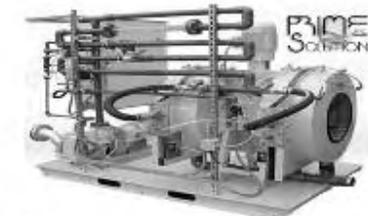
- Water is life; as we manage our lives, we must manage our water.
- Water is a Fundamental Human Right and Belongs to World and all species
- Lowest Income person pays the highest indirect costs
- Think Globally and Act Locally

Tri-Con 2008

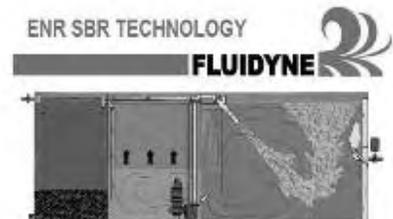




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Tri-Association Conference: Opening Ceremonies

—By Chip Wood, Ecoletter Staff



Jerry N. Johnson, General Manager, D.C. Water and Sewer Authority (DCWASA), gave the Keynote Address. The Authority provides water and wastewater treatment services to the District of Columbia and parts of Virginia and Maryland with a customer base of approximately 2 million population. DCWASA operates the Blue Plains Treatment Plant, which is the largest advanced wastewater treatment plant in the world.

Jerry delivered an inspiring and incisive speech. He compared the relative cost of cable TV and Internet service to the cost of potable water. We face difficult challenges. Our services are taken for granted—buried—out of sight—out of mind. Compare visibility of buried pipes to bridges and roads. We are the guardians of our systems. We have numerous issues such as minute concentrations of pharmaceuticals in water, environmental issues, energy costs, carbon foot print, biosolids applied to land, green house gases,

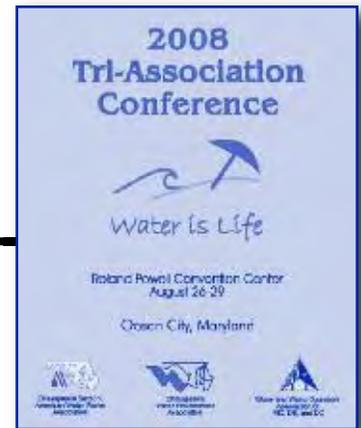
global warming, health of Chesapeake Bay, etc.

We need more emphasis on non-point sources. In drought periods, bay water quality improves. During a wet spring, bay water deteriorates. The Clean Water Act is focused on series of laws and rules. DCWASA is spending \$2 billion for 18 % of Anacostia watershed's CSOs. How about the other 82 %?

BNR/ENR projects may not address Bay effectively. They address only 20 % of the nutrient loading. Look at the 80 % not addressed. What if ENR/BNR gets done and Bay's not cleaned up? What then?

DC has \$950 million invested in Blue Plains WWTP. DC needs \$530 billion more to be spent on infrastructure than is programmed now. Needs of aging infrastructure are not funded. The public perceives that a fire hydrant needs repair when it fails. But public neglects the underground pipes that supply water to the hydrant. Regulatory programs neglect infrastructure needs. Regulations need to be fixed. Take what you learn here and go back home and collaborate. We have to work together and learn from each other.

Following the opening session, a reception was held in the exhibition hall. Conference attendees mingled with the exhibitors, chatted about new technologies, and helped themselves to some food and drink. The reception was well attended, and was a great way to kick off another successful Tri-Conference.



CWEA Lunch Meeting

—By Pete Thomson

The CWEA Annual Meeting was held over lunch on August 28th, at the annual conference. Outgoing President Karl Ott called the meeting to order and greeted the attendees at yet another successful Tri-Association Conference before introducing the guest speaker, Chuck Weir, Treasurer of WEF, who spoke regarding WEF's current and planned efforts.

Following the guest speaker were reports from the secretary, Tim Wolfe, the Treasurer, Bob Wimmer, and the Delegates, represented by Ray Schulte, who noted that the new WEF website contains a Water Heroes section. Hiram Tanner, Vice President also made remarks prior to the awards presentation.

Golden Manhole awards were presented by the Collections Systems Committee to Laurie Terry and John Fletcher. The following individuals were nominated by CWEA for the national WEF awards. Each was presented with a plaque:

- **Collection Systems Committee**—Gary Wyatt, City of Baltimore, retired
- **Emerson Medal**—Sudhir Murthy, DC WASA
- **Outstanding Young Professional**—Priscilla Brown, Black & Veatch
- **Phillip Morgan Medal**—Salil Kharkhar, DCWASA
- **Gordon Fair Award**—Jim Johnson, Howard University

Karl passed the gavel to incoming president, Aaron Nelson, who spoke regarding his thoughts and plans for the coming year.

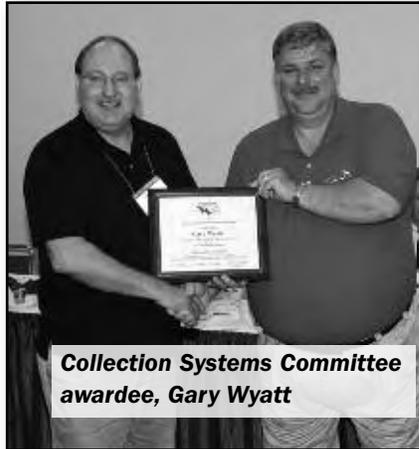
Immediately prior to adjourning the meeting, Ted DeBoda and Ray Schulte (who had already departed to moderate a session) were inducted into the 5S Society with the obligatory embarrassing induction ceremony.



Guest speaker
Chuck Weir



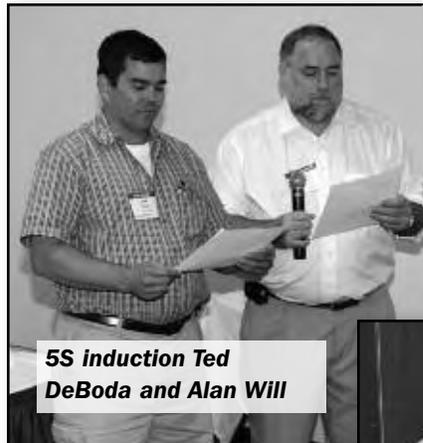
Presentation of the
Emerson Medal



Collection Systems Committee
awardee, Gary Wyatt



Golden Manhole awardee
John Fletcher



5S induction Ted
DeBoda and Alan Will



Golden Manhole awardee
Laurie Terry

WVOA Lunch Meeting

—By Floyd B. Johnson, Co-editor

As is custom, a WVOA business meeting was held on August 28th at the annual conference in Ocean City. Not as custom was the absence of the incoming president, Lewis Schmidt, who could not be present. The good news is Lewis has since then taken over as President.

Outgoing president DuWayne Potter indicated he was pleased with how the Tri-conference was going and had heard mostly positive comments from members for the new venue of the Convention Center. While next year's joint conference will be back at the Clarion Hotel, future conferences could be held at the Convention Center. He thanked CH2M Hill for sponsoring the luncheon.

Don Sprinkle, Maryland Board of Certification Liaison, reported 211 people attended the 2008 Short Course. He also mentioned that electronic certification tests could be coming soon and that Delaware has instituted a similar program as Maryland that requires 50% process training requirement for recertification training hours.

Employer Recognition Awards were given to DC WASA, St. Mary's County Met Com, Howard County Dept. of Utilities, Middletown, Md. and WSSC's Western Branch WWTP.

Lifetime memberships were awarded to Bill Shreve and Don Sprinkle.



Duane McCoy



**Employer Recognition awardee
WSSC Western Branch WWTP**



**Lifetime Membership awardee
Bill Shreve**



**Employer Recognition awardee
Middletown, MD**



**Outgoing President
DuWayne Potter**



**Employer Recognition awardee
St. Mary's County Met Com**



**DCWASA Employer Recognition
awardee Howard County Dep't.
of Utilities**



**Lifetime Membership awardee
Don Sprinkle**

WWOA Lunch Meeting

Continued from page 30



Employer Recognition awardee
Howard County

DuWayne Potter

CWEA President Message

Continued from page 3

The change in my life continued into 2006 when my first child was born, and then again in 2007 when I was notified that a second child was on the way. WOW! I quickly realized that this change required some adjustments to my life, and started searching for what those adjustments might be. This is also the time when CWEA was searching for ways to accommodate the growth and began pondering how the members would feel about moving our conference away from our reliable Clarion homestead.

In 2008 I decided to test my change tolerance when I decided to move back to my family's roots in Virginia Beach, change employers after almost 15 years of service topped off by the birth of my second child. For the record two kids are way more than twice the amount of work of one.

For me that was change overload and the timing of this also happened to overlap with the planning of the 2008 Annual conference. During the four months leading up to the conference I was struggling with the change in my life and my commitment to CWEA. I could have decided to step down as CWEA President, but that would do not justice to the time I have spent with CWEA nor would it respect those who thought I was suitable presidential material. I must admit that without the help of my friend Jane Bayer some annual conference planning tasks, assigned to me, would have never been accom-

plished due to the change overload I was contending with. Thanks Jane!

During this time I realized that my family changed my vision of life completely, and I now new what this meant. I realized that I had replaced my regular activities in water sports with my work efforts to preserve the water environment. I also realized that my network of friends in CWEA were my new elite group. I feel this group fits the description of the term Waterman that mentioned earlier. By replacing "athlete" with "professional" one gets a definition that seems to suite our profession rather well.

Waterman = Well respected professionals of broad & multiple aquatic skills.

I realize now that my goal to become a waterman has a slightly different meaning as it is now associated with the wellbeing of my children.

In Mr. Jerry Johnson's opening remarks at the conference he used the following words "we are the protectors of the system," referring to our work on the water, storm and sanitary systems. The combination of his statement and the modified definition of waterman make a bold statement which I now would like to follow.

Waterman = Well respected professionals of broad and multiple aquatic skills and protectors of the water environment.

My disclaimer: Waterman as defined in this memo is a term that encompasses men and women alike and does not discount the respectable watermen trade of those who make a living harvesting seafood from the Chesapeake Bay.

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Tri-Conference 2008 Awardees

—By Ecoletter Staff

WWOA Awards

The winners of the W. McLean Bingley Award for Wastewater Treatment were:

JASON NEWMAN of Charles County. Mr. Newman has obtained the certification and the working knowledge to operate any and all of the county's 60 pump stations, four wastewater treatment plants, and two spray



fields. Due to Mr. Newman's abilities, he currently has been assigned to implement the new ENR system at the Swan Point Wastewater Treatment Facility. He has trained numerous operator trainees in the wastewater field. He has conducted tours of wastewater plants for local schools and groups, and has never received any comments, short of praise for his skills. Whether troubleshooting a problem or performing repairs, Mr. Newman always has a smile on his face and shows a willingness to help others.



WILLIAM ALBRITTAIN.

Mr. Albrittain has worked at the Blue Plains Wastewater plant since 1978. He has worked as a trainee, in the main laboratory, QA/QC, sample prep and sample analysis for AA and ICP and EPA yearly performance samples, Compost Spe-

cialist, and BNR process. Currently he is learning and using the new Plant Computer System (PCS) and working with Department Maintenance Services (DMS) to utilize the new Maximo work order system.

ROBERT WOOD. Mr. Wood works at the WSSC-Seneca WWTP as a Senior Plant Operator. Mr. Wood was instrumental in testing and startup of the new WSSC's Seneca WWTP in 2003, and in the shut down and phase out of the old 5 MGD package plant that same year.

His enthusiasm and dedication to our profession, along with his superior mechanical capabilities, gained him



several "Superior" evaluation ratings.

Mr. Wood helped with a major change for the O&M staff at Seneca and Damascus: the new advanced 1.5 MGD Damascus plant was started, uti-

lizing the MLE (Modified Lutzack Ettinger) BNR process, with UV Disinfection, and Class B Lime-stabilized sludge process. Additionally, a new 20,000 GPD plant in Hyattstown was added to their responsibility. As usual, Mr. Wood stepped-up to the plate and cross-trained in operating processes of the new plants.

Mr. Wood continued to play a leadership role in implementing improvements and upgrades to the Seneca WWTP. In addition, Mr. Wood often lent his expertise and mechanical abilities in major lift station upgrades and improvements. This has prompted numerous supervisors to write commendation letters throughout his career.

JEFF VAN HORN.

Mr. Van Horn has been employed at the Washington Suburban Sanitary Commission (WSSC) for 35 years. For the last 32 years, Mr. Van Horn has been employed as Waste-



water Plant Operator at the Parkway WWTP. Over the last three decades the Parkway WWTP has undergone numerous upgrades and Mr. Van Horn has been involved in many of the related start-ups. He is among the best at trouble-shooting, problem solving, and making repairs to keep equipment running when most needed. He is involved with most high flow and emergency situations that occur at the plant and its many remote pumping stations. He is routinely relied upon to take charge and coordinate special projects. Due to his considerable knowledge of the plant, strong trouble shooting skills, good judgment, ... (not to mention fun-loving nature), it is common for new employees to specifically request the opportunity to work under and be trained by Mr. Van Horn. Several years ago, Mr. Van Horn had an opportunity to become Chief Plant Operator.

Continued on page 34

Tri-Conference Awardees

Continued from page 33

He quickly decided he would much prefer to remain in his current position and assist in the interview and selection process for the new Chief Plant Operator. Mr. Van Horn played a critical role in the selection process and in Parkway's continuing success. His career at the Parkway WWTP is coming to an end, as he hopes to retire within the next year. Mr. Van Horn will always be remembered for being "One of the Best!"

The winner of the Distinguished Service Award for Water Treatment was:



JOSEPH WHITTAKER.

Mr. Whittaker has been a Water Operations Supervisor for Charles County Utilities for the past 22 years. Mr. Whittaker has produced many excellent Standard Operating Guides (SOG's) and has lead

his staff in planning, organizing and the implementing of these SOG's at 23 systems while achieving cost savings. He has helped set up a reverse osmosis plant, the first RO plant to remove radioactive contaminants. Mr. Whittaker takes great pride in his profession and is a great team player with Charles County

The winners of Distinguished Service Awards in Wastewater Collection Systems were:

TONY ARCH. Mr. Arch is the definition of a "Pro-Active" employee. On a daily basis Mr. Arch is responsible for the upkeep and monitoring of Charles County's entire collection system. At any given time you will find him lifting manhole covers, checking for trouble spots, directing the Vac-Con, the Sewer Jet and the Pump trucks. Mr. Arch also responds to Final and Substantial inspections for new pipe acceptance as well as emergencies and SSO's. He has also taken on the project of coordinating interceptor line clearing. If asked about a stretch of line, Mr. Arch can almost always quote to you the location of the manholes and the current condition of the line. He can also tell you what types of customers that line serves. Whether it involves setting up a temporary pump-around



or some other means. Mr. Arch always comes up with a solution to a problem. He takes great pride in his profession. One will wonder, will he do this for free?



MICHAEL CROWE. Mr. Crowe is with WSSC's Seneca WWTP Facility. Mr. Crowe was a key figure in the startup and testing of Washington Suburban Sanitary Commission's seven newest Wastewater Pumping Stations and has rou-

tinely volunteered to assist in activities above and beyond the call of duty. He has been the lead technician and crew supervisor for the pump station maintenance crew since 1991. Mr. Crowe's enthusiasm and dedication to our profession, along with his superior mechanical, technical, and troubleshooting capabilities, gained him numerous "Superior" evaluation ratings. He continued to seek new knowledge and gain new skills, proving himself to be a very valuable member of WSSC's workforce. He joined the new "Facility Technician" career track, acquiring additional electrical and mechanical training that he utilizes effectively in his daily work, not only to operate the pumping stations, but also to perform extensive electrical and mechanical maintenance when needed. Mr. Crowe was also instrumental in providing training and leadership to his crew in the field, resulting in creating and empowering a highly effective pump crew responsible for the O&M of 21 pumping stations throughout Montgomery County. This has resulted in reduction of several work-years assigned to these stations. Mr. Crowe continues to broaden his experience and knowledge base so that he is well qualified to help both operations at the Seneca Wastewater Treatment Plant. He is widely considered by all those who know and work with him to be a valuable team member and a key employee to WSSC.

The winner of The Distinguished Service Award For Laboratories was:

DANNY COATES, an employee at D.C. Water and Sewer Authority (WASA) Chemical Laboratory. During the last three years Mr. Coates has been a valuable staff member, responsible for multi-task assignments, which extended far beyond his wastewater operational duties. These assignments were performed without complaints and with much energy. From performing routine laboratory analysis to assisting with special projects, he has worn many hats.



Because of his knowledge in wastewater treatment and willingness to take on and learn new tasks, he is the person that WASA laboratory supervisors along with other engineers can depend on to assist with many programs.

Two years ago Mr. Coates was assigned to coordinate a major laboratory internship program. In this program, he assists many undergraduate and graduate students, ensuring they are provided with necessary resources and materials to complete their studies and special research projects. Mr. Coates is an invaluable resource to the students.

Aside from this important lab responsibility and his routine duties, he has been very instrumental in improving a safer working environment for the entire staff of the laboratory. He does a good job of making sure everything is clean and operational by placing work orders when needed. Mr. Coates also spends a great deal of time working with WASA safety specialists to ensure improvements continue at Blue Plains Chemical Laboratory.

Bioisolds Beauty Contest

The Biosolids Beauty Contest judged biosolids for odor, appearance and texture. A panel of independent judges evaluated samples from :

- **Back River**
- **Seneca**
- **Damascus**
- **Parkway**
- **Sod Run**
- **Cecil County Meadowview WWTP**
- **Piscataway WWTP**

The winner was the **PARKWAY WWTP** from WSSC, with Sod Run in 2nd and Back River in 3rd.

Ops Challenge Award Winners.

The operations challenge winners were announced and awards presented by Duane McCoy and Laurie Terry. Lau-



Back River



Seneca



Parkway



Sod Run

rie thanked the teams for traveling to the competition and thanked all of the sponsors and the Tri-Con organizing committee. Thanks also went to all of the judges.

Laboratory Event.

1st place—**TERMINAL VELOCITY OF VIRGINIA BEACH, VA**

2nd place—**INFLUENCE OF GREENWOOD, SC.**

Process Control.

1st place—**TERMINAL VELOCITY**

2nd place—**SPOTSYLVANIA SYNERGY**

Safety.

1st place—**TERMINAL VELOCITY**

2nd place—**INFLUENCE OF GREENWOOD**

Pump Maintenance

1st place—**TERMINAL VELOCITY**

2nd place—**SPOTSYLVANIA**

Collection Systems

1st place—**SPOTSYLVANIA.**

2nd place—**TERMINAL VELOCITY**

Overall winner

TERMINAL VELOCITY OF VIRGINIA BEACH, VA.



Continued on page 36

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Tri-Conference Awardees

Continued from page 35

CWEA Awards

The winner of the Student Paper Competition was **NATASHA ANDRADE OF THE UNIVERSITY OF MARYLAND**. Her paper entitled "Fate of PBDE's in Biosolids and Soil from Commercial Farms that Receive Biosolids Application" was presented as part of the Tri-Con program. Ms Andrade will be a great addition to the water industry upon her graduation.

The William D. Hatfield Award was presented to **PAUL BRENNAN OF WSSC**. Mr. Brennan has been in the business since 1976 and in 1980 was assigned to lead the Montgomery County collection system group. For many years he has been the operator in charge of the award winning Damascus WWTP. He played a key role in the 1997 start up of the Damascus plant and supervised the conversion of the plant to a 4-stage Bardenpho process.



The Arthur Sidney Bedell Award went to **JON DOAN OF BLACK AND VEATCH**. A BS in engineering from Northwestern University, a registered PE in many states, he has presented numerous papers at CWEA and WEF-TEC conferences. Jon started the CWEA collection system committee and made it one of the most active CWEA committees. He will be serving as a WEF delegate from 2008 to 2011. He has also served on the residuals and biosolids committees and is currently on the collection systems committee for WEF.



The Laboratory Analyst Excellence Award was given to **DEVINA YUTZY**. She has been employed at Washington County for 17 years and has a BS from Frostburg State University. She started as a lab analyst and is certified to complete metals and organic chemical analysis. She is also approved for the analysis for PCBs and many other complex tests.



The Burke Safety Award was presented to the **WSSC'S SENECA WWTP**. The group is very dedicated to ensuring customer and employee safety. They conduct safety programs at three levels within the company; Commission wide, throughout the Production team and at the plant. For the 2007 calendar year they had no lost time accidents and only 1 during each of the previous 4 years.

The WEF Past Delegate Plaque was awarded to **RUSS SHARPE** for outstanding service to CWEA and WEF.



Russ received a civil engineering degree from the University of Maryland and has more than 26 years of experience. He has served as the CWEA Awards Committee Chair and served as the chair of many other committees.

He is a founding member of the 5S society and a past president of CWEA.

For his extensive work to make the Tri-conference such a success, **RUSS SHARPE** was given a special award to recognize the extra effort he made on behalf of the organizations.

The first of its kind, **Tri-association Special Award** was given to **DAVID KAPPE** for his over 40 years of service to all three organizations.

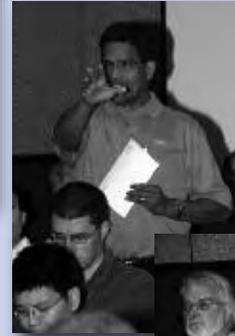


Presentations



Potential Compliance Strategies

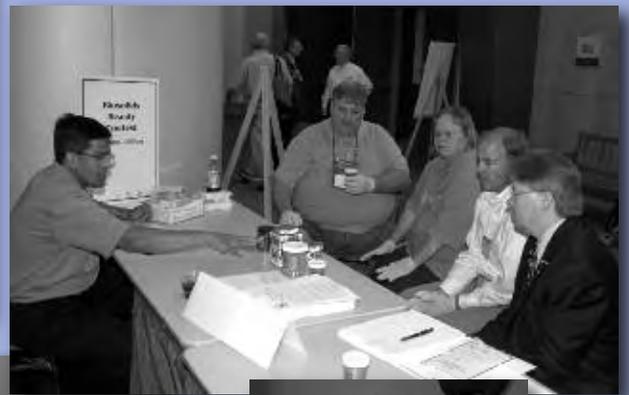
- Optimized aeration (implemented)
- Move point of chlorination after filter and reduce chlorine dose (implemented)
- Chlorine dioxide for primary disinfection (under review)
- GAC filter adsorption for the organics (planned)
- Removal of preformed THMs in reservoirs (potential)
- New WTP since well 944
- Neighborhood Treatment Systems (planned)
 - Aeration in reservoirs
 - GAC at pressure relief valves



Committee Fest



Biosolids Beauty Contest



Secrets Night Festivities



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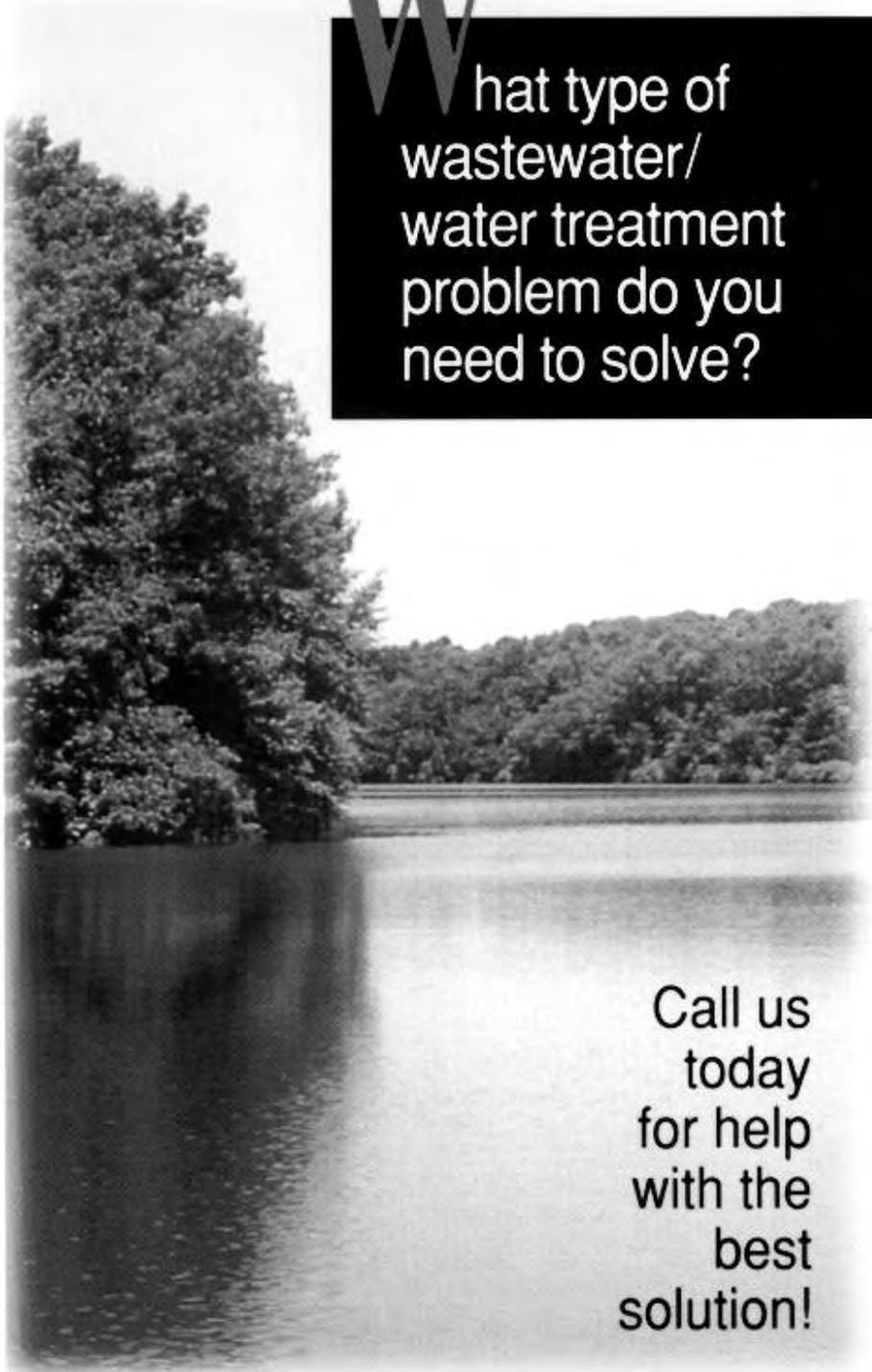
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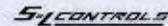
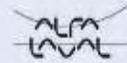
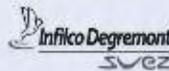
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