PACIFIC NORTHWEST CLEAN WATER ASSOCIATION

NEWSLETTER

4th Quarter 2008

From the PRESIDENT

PNCWA President
Rick Shanley,
Carollo Engineers

Rick Shanley

Given the many common objectives of the Water Environment Federation (WEF) and the American Water Works Association (AWWA), it may be surprising to you that in early 2007 a resolution to open discussions on unifying the two organizations failed to pass. In discussing this situation with members from both sides, it is apparent that no single item caused the organizations' inability to "take their relationship to the next level." However, one item that did contribute was poor communication. With that knowledge in hand, I thought it appropriate for you to know that representatives of PNCWA and the AWWA counterpart to PNCWA—the Pacific Northwest Section (PNWS-AWWA) —recently met and unequivocally agreed that we should explore opportunities to collaborate on a regional level.

The potential benefits of such a working partnership are extensive, including elements that range from practical to "big picture." The more functional benefits center on making better use *(continued on page 25)*

Science Teachers Get Pumped

By Karen DeBaker, PNCWA Public Education Committee Chair

Mark Taratoot (in River Ranger costume head) and Karen DeBaker helped staff the PNCWA Public Education exhibit at the National Science Teachers Association convention in Portland.

The invaluable interaction we had with our Pacific Northwest science teachers would not have been possible without the gracious efforts of the Public Ed Committee and the PNCWA Board. Special thanks to our exhibit tenders and workshop presenters: Megan Hanson, City of Portland Bureau of Environmental Services; Heather Slocum, City of Albany; Shane Jeff, City of Burley/Veolia NA; Mark Taratoot, City of Corvallis; Mark Smith, HDR Portland; Ely Teragli, Clean Water Services, and myself.

The NSTA conference was November 20-22 in Portland at the Oregon Convention Center. Our Thursday workshop "Water Education Tools for Teachers" was attended by 40 teachers. We stressed that our industry knowledge is going out the door with retirees, we need to nurture our future water professionals, and the importance of teacher partnerships with local water utilities and nonprofits to bridge that gap.

We presented SJWP, The Water SourceBook, World Monitoring Day, Adopt-a-School, and treatment plant tour opportunities. The committee members discussed their local programs including SOLV partnerships and The Water Box. Megan Hanson demonstrated her classroom wastewater presentation and invited the teachers to assist.

We found out most teachers said email is the best way to reach them, especially if we use subject line headers such as "service learning", "community involvement" or "NSTA follow-up" to get their attention. We gave away T-shirts and a water monitoring kit to teachers who correctly answered watershed questions. Our booth was a constant flurry of activity as teachers engaged us in conversation about our resources and picked up the resource guide sheet and PNCWA Adopt-a-School applications. Nearly 80 teachers signed up to be contacted in the future, and we foresee *(continued on page 25)*

Students and Young Professionals Plant a Rain Garden in Chicago's Pulaski Park

By Haley Falconer, WEF SYPC Committee

The WEF Students and Young Professionals Committee (SYPC) left Chicago better than they found it this year at WEFTEC! Nearly 60 volunteers from WEF, consulting firms, universities, industry and a local high school joined forces to build and plant a rain garden at Pulaski Park. This first annual community outreach project known as "Gettin' Out of the Gutter" was completed on Saturday, Oct. 18.

Washington State University students Antoine Cordray and Haley Falconer helped plant the rain garden.

The purpose of a rain garden is to keep stormwater out of the sewer system to avoid unnecessary treatment while recharging ground water. The Pulaski Park rain garden is a new feature in the neighborhood that will be used to promote understanding of our water environment. To build the rain garden on the 200 square foot plot, soil was removed to a depth of one foot and replaced with topsoil, and then native plants were installed and mulched. The downspout from the nearby pool house was disconnected, and a pipe was laid to direct roof runoff to the garden.

WEF SYPC collaborated with the Center for Neighborhood Technology, a community group with experience in building rain gardens, and Chicago Park District, Metropolitan Water Reclamation District of Greater Chicago, and Illinois Water Environment Association (IWEA). IWEA will maintain the rain garden in the future, and worked with the SYPC to plan and coordinate the project, recruit volunteers and sponsors, and provide construction labor.

The project drew attention from many dignitaries including leaders from the City of Chicago, the Park District, the Water Reclamation District, and WEF. This project demonstrates a simple project that can be done by any homeowner in only a day. The SYPC is looking forward to watching the project's development over time.

A second annual outreach project is in the planning process for the WEFTEC09 in Orlando, Florida. If you would like more information on this project, please contact the sub-committee chair Haley Falconer at haley.r.watson@gmail.com or co-chair Rebecca McLarty at McLartyRG@cdm.com.

WEF SYPC and friends volunteered to build a rain garden in Chicago's Pulaski Park as their first annual community outreach project.

Mission Statement

Pacific Northwest Clean Water Association (PNCWA) is dedicated to preserving and enhancing the water quality in the states of Idaho, Oregon, and Washington. We promote the technical development of our members, the dissemination of information to the public and the advancement of science needed to protect the water environment.

Vision Statement

Pacific Northwest Clean Water Association will be the recognized leader throughout Idaho, Oregon, and Washington for ensuring clean water for future generations.

PNCWA Newsletter Advertisers

We thank these advertisers for their support of the PNCWA newsletter and other education and training activities.

APSCO
Black & Veatch
Blue Water Technologies
Brown & Caldwell
Carollo Engineers
CDM
CEU Plan
DHI Water & Environment
GE Water/Zenon
The Greenbusch Group
HDR Engineering
Jacobs Engineering Group
J-U-B Engineering
Kennedy/Jenks
Linko Data
Murray, Smith & Associates
MWH
Parametrix
Tetra Tech
Treatment Equipment Company
West Yost
Whipps, Inc.
WILO EMU USA

In this Issue

The PNCWA newsletter is printed quarterly, and sent to over 1,500 members in Idaho, Oregon, and Washington. Professionals in wastewater treatment, most of whom are members of the Water Environment Federation organization, make up our mailing list.

Change of address for PNCWA members, officers, directors, or committee members should be directed to:

www.pncwa.org
or **Nan Cluss**
PNCWA Association Manager
or **Michael Rainey**
PNCWA Staff
P.O. Box 1075
Caldwell, ID 83606
Phone: 208-455-8381
fax: 208-455-8382

To contribute an article, please contact Sheri Wantland at (503) 681-5111 or wantlands@cleanwaterservices.org

EDITOR'S NOTE: Newsletter articles reflect the author's opinions and not necessarily those of the PNCWA Board of Directors or Water Environment Federation.

WEF's First Water Hero is Dale Richwine

Longtime PNCWA officer and advocate Dale Richwine, the creator of PNCWA's Silent Heroes program, was honored as WEF's first ever Water Hero. Richwine developed Silent Heroes to honor those who protect water resources 24/7/365 with little fanfare or recognition. It was such a good idea that WEF followed suit with its own Water Hero program, and honored Dale as the first recipient. WEF describes Water Heroes as the everyday professionals who protect public health and the environment by cleaning the world's water day after day.

Dale Richwine is a Vice President of MWH in Portland with 36 years' experience in the water environment industry. Asked why he is a water quality professional, Dale said, "I have always been interested in science and the environment. Being a water quality professional allows me to do something to improve our environment. Now that I have been in this profession, I realize that there is a small close-knit group of people who do this work and the dedication is unbelievable. This is where my friends are." Look for Dale and other Water Heroes on WEF's website at www.wef.org.

Dale Richwine, WEF's first Water Hero.

Accident Management

No one ever wants an injury, but if it happens the most important thing is to take care of the person. That said, the second most important aspect is ACCIDENT MANAGEMENT.

Accident Management starts before you ever have a minor or serious event. It is important that all management and employees understand what is expected of them and what to do in the event of an accident. Training and communication ensure each accident case is handled to provide good care of the employee.

First report of an injury: Basic requirement. According to the general recording criteria, an injury or illness is recordable if it results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. You must also consider a case to meet the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in the above criteria.

Meeting with your health care provider can ensure that you are managing each injury case effectively and consistently. You may be able to avoid a lost time injury if your medical provider understands that limited duty work is acceptable and accommodations can be made for the employee. Also, by working with your health care provider and understanding prescriptions, you might avoid a recordable or lost time injury if over the counter medication will work instead of a prescription.

Another aspect of Accident Management is to ensure that the employee, management and health care provider all understand the differences of time away, light duty, and full release back to duties. Everyone should be working in the best interest of the employee and getting that person back to the job as soon as possible. A lost time accident occurs when the employee cannot return to full duties on the next assigned work day. Remember, a lost time accident may occur if the employee returns to limited duties or is unable to return to their actual duties.

The PNCWA Safety Committee is committed to doing all we can to promote Environmental Health and Safety to everyone. I would like to introduce the current PNCWA Safety Committee members: Mike Meyers, Jack Bennion, Gilbert Sanchez, Paul Proctor, Shawn Redmond, Ken Schlegel, and myself. We developed the Committee Charter and it was approved by the PNCWA President. We are looking for more members to join us. We are all very excited about this committee and are working on new ideas, such as a forum on the PNCWA website, and will continue to contribute safety articles for the newsletter. If you have ideas for articles, classes or workshops, or would like more information about the Safety Committee, please feel free to contact me at (208) 878- 3984 or shane.jeff@veoliawaterna.com

Public Infrastructure Investment Makes Sense

By Bill Bertera, Executive Director, Water Environment Federation

Infrastructure investment is back in the national news. Usually when this happens it is the result of some dramatic infrastructure failure like a bridge collapse, but this time it is a bit different. The global economy is under stress and economists and politicians alike are looking for quick fixes. They are looking for precedents and finding them in the policies of Franklin Roosevelt, Dwight Eisenhower and Richard Nixon…they are eyeing investments in public infrastructure. Experts might also look to the Japanese experience in the twenty years since their economy experienced a dramatic melt-down for some answers. The power of infrastructure investment in reviving failing economies is impressive.

The reasons are simple…public spending on public infrastructure works. It works because state and local governments will spend everything they get and spend it quickly. They already have significant inventories of public works projects (including water and sanitation initiatives) awaiting funding…which makes it puzzling why infrastructure investment is not receiving more immediate attention at the federal level.

The answers are as simple as they are disturbing. Except for the highly visible highway and airport infrastructures (and even they are in trouble), most infrastructure is not politically "cool". It is expensive, it takes a long time to complete (often longer than the terms of office of those who need to vote the funds) and importantly, it is frequently seen to come at the expense of critical social services for the people most in need in our society.

And there is one other problem…federal infrastructure investment at the local level involves income redistribution… taking money from those who have invested in their infrastructure at some sacrifice and making them pay for communities that could not or chose other priorities. These are all deal killers except in the most abundant of times, but that does not make infrastructure a bad public policy decision for America.

Ten years ago abundance seemed imminent and there was a raging national discussion about how to spend what was anticipated to be a huge national budget surplus…and all sorts of infrastructure projects were on

the table…including water and sanitation elements. The surplus never materialized and neither did the infrastructure investment. But the need remains in almost every area of public infrastructure investment.

What did materialize in the water and sanitation field was the funding gap…the literal billions of dollars between what was being spent and what would be needed over the next twenty years just to stay even as aging infrastructure and population growth took its toll. Despite very aggressive investment initiatives in hundreds of communities in water and sanitation infrastructure, the national gap, estimated by the EPA to be in the $478 billion range, remained. This, despite annual local government investments in water infrastructure in the $30 billion range in recent years. The gap remains and is growing and private investment capital is not filling the void.

A recent study by the United States Conference of mayors suggests that the return on investment for every dollar spent on water infrastructure is $2.62 in that year and for every job added in water and sanitation, 3.68 jobs are created in the national economy to support that job. We also know that federal funds put into the hands of state and local officials actually get spent…and usually quickly. And there are some preliminary indications in Congress that there is a need to at least pretend to be taking the situation seriously.

Congress does this by drafting and proposing legislation. But drafting and proposing are a far reach from actually enacting and there seems little political will to do that now in an election year with a recession looming. That does not stop legislators from talking about it however, and letting us think that something will happen.

The case for infrastructure investment in general is well known and documented. Those who own homes know how it works. Eventually everything wears out, but it wears out more slowly if it is taken care of along the way. Doing so not only prolongs the life of the asset but allows us to extract as much value from it as possible while giving us time to save for the day when maintenance gives way to necessary replacement. Why is it that we understand that with respect to our homes, but not our ports, rivers, parks and water and sanitation infrastructures to name but a few examples?

The answers are uncomplimentary to Americans as a people and reflect a short sightedness and absence of what political scientists used to refer to as "public regardingness"… the willingness to give up personal

(continued on page 22)

South Puget Sound Dissolved Oxygen Study

The Washington State Department of Ecology (Ecology) is conducting a water quality study on low dissolved oxygen levels in South Puget Sound. In areas with low levels of dissolved oxygen, fish and other marine life become stressed and die or are forced to flee their habitat. In the 2008 Water Quality Assessment, Ecology found 24 locations in South Puget Sound impaired due to a lack of dissolved oxygen, mostly in Carr, Case, and Budd Inlets. Nitrogen is the main pollutant that causes low dissolved oxygen levels. Excess nitrogen causes excess algae growth. As the algae die and decay, they rob the water of dissolved oxygen. Nitrogen discharged at one spot may cause low dissolved oxygen levels many miles away.

Nitrogen reaches South Puget Sound in four ways:

1. Wastewater Treatment Plants (WWTPs): This study sampled 29 wastewater treatment plants that discharge nitrogen directly into Puget Sound.

2. Rivers (watershed sources): This study sampled 39 rivers and streams that flow into Puget Sound. The study also includes other upland areas that drain into Puget Sound. Nitrogen in rivers comes from septics, stormwater, groundwater, upstream atmospheric sources and WWTPs, other point and nonpoint sources, and natural sources.

3. Atmospheric deposition directly on Puget Sound.

4. Exchange of marine water with northern parts of Puget Sound and the Pacific Ocean.

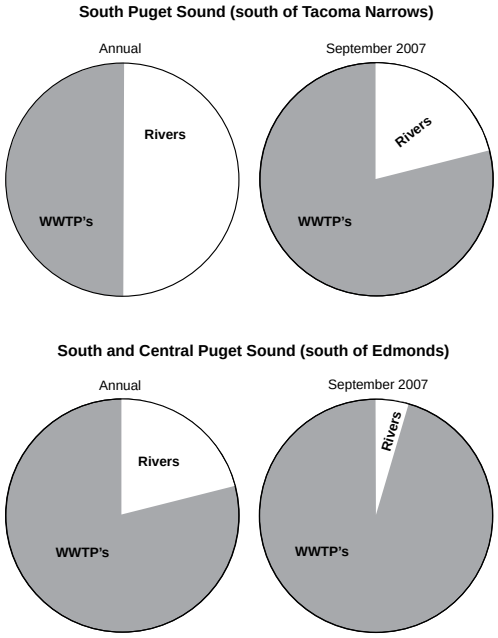
This study focuses on South Puget Sound, south of the Tacoma Narrows. However, because Central Puget Sound sources may influence South Puget Sound water quality, Ecology is studying the entire South and Central Sound area initially.

Ecology determined the amount of nitrogen reaching South Puget Sound each day (called the load). The form of nitrogen of greatest interest is dissolved inorganic nitrogen (DIN), which is the sum of nitrate, nitrite, and ammonium. On an annual basis, rivers and wastewater treatment plants produce comparable DIN loads to South Sound, south of the Tacoma Narrows. In September

2007, when the lowest dissolved oxygen levels occurred, wastewater treatment plants contributed 80 percent of the DIN load to South Puget Sound. The ratio shifts when the entire South and Central Puget Sound south of Edmonds is considered due to the larger population centers in Central Puget Sound.

A data report covering the initial phase of the study is available at www.ecy.wa.gov/puget_sound/dissolved_oxygen_study.html. Future parts of this study will determine how these nitrogen discharges affect dissolved oxygen levels in South Puget Sound. If the study indicates that something needs be done to protect dissolved oxygen levels in South Puget Sound, either a water quality improvement project (also known as a total maximum daily load or TMDL) or some other plan of action to protect water quality will be necessary.

For more information or to provide input, contact Andrew Kolosseus at the Department of Ecology at 360-407-7543 or akol461@ecy.wa.gov.



Charts show the annual and late summer dissolved inorganic nitrogen load from rivers and wastewater treatment plants (WWTP's) that discharge directly into Puget Sound.

Sleuthing Gravity Sewer Odors

Contributed by Carrie Pak, PNCWA Collection Committee Chair

It is a well known fact that investigations of odor production in gravity fed sanitary sewers often involve the need for a full understanding of the liquid phase causes of dissolved sulfide production. Related parameters that are typically investigated include wastewater temperature, pH, existing dissolved sulfide concentration and BOD5. The question that is rarely answered in these investigations and studies is, "What is causing odorous air to be forced from the gravity collection system?" Without a full understanding of the headspace ventilation and air pressure characteristics of the sewer system, a permanent, reliable odor control solution might not be possible.

Liquid Phase Causes of Hydrogen Sulfide Buildup

The occurrence of sulfide in wastewater, and the subsequent release of hydrogen sulfide to atmosphere, begins with the biochemical reduction of inorganic sulfates to total dissolved sulfide. Sulfate is abundant in most municipal waste streams. The rate of the reduction of sulfates to sulfides is a function of a combination of the following environmental and physical conditions:

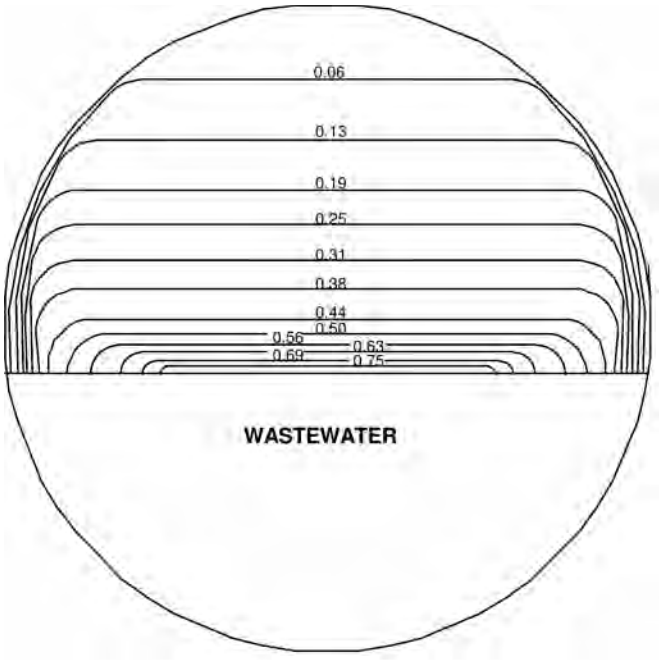
- Dissolved oxygen concentration
- Sulfate concentration
- Wastewater BOD concentration
- Wastewater pH
- Wastewater Temperature
- Stream velocity
- Surface area of pipe wall and/or wet well
- Detention time
- Wastewater turbulence

Air Movement in a Partially-Full Gravity Sewer

It must be remembered, however, that odor complaints from a gravity fed sanitary sewer will not arise if the foul air in the headspace is not released to atmosphere. Studies have shown that flowing wastewater in a partially full gravity sewer pipe exerts a drag effect on the air in the headspace as depicted in Figure 1 (Pescod and Price, 1992). The lines above the wastewater in the cross section of the pipe shown in Figure 1 represent various air velocity contours. The numbers shown in Figure 1 represent the corresponding air velocity at each contour as a fraction of wastewater velocity. For example, at the contour labeled "0.44" the air velocity is taken to be 44% of the calculated wastewater velocity in the pipe. Given these relationships, it becomes possible to calculate a reasonable average air velocity in the headspace under a given flow condition.

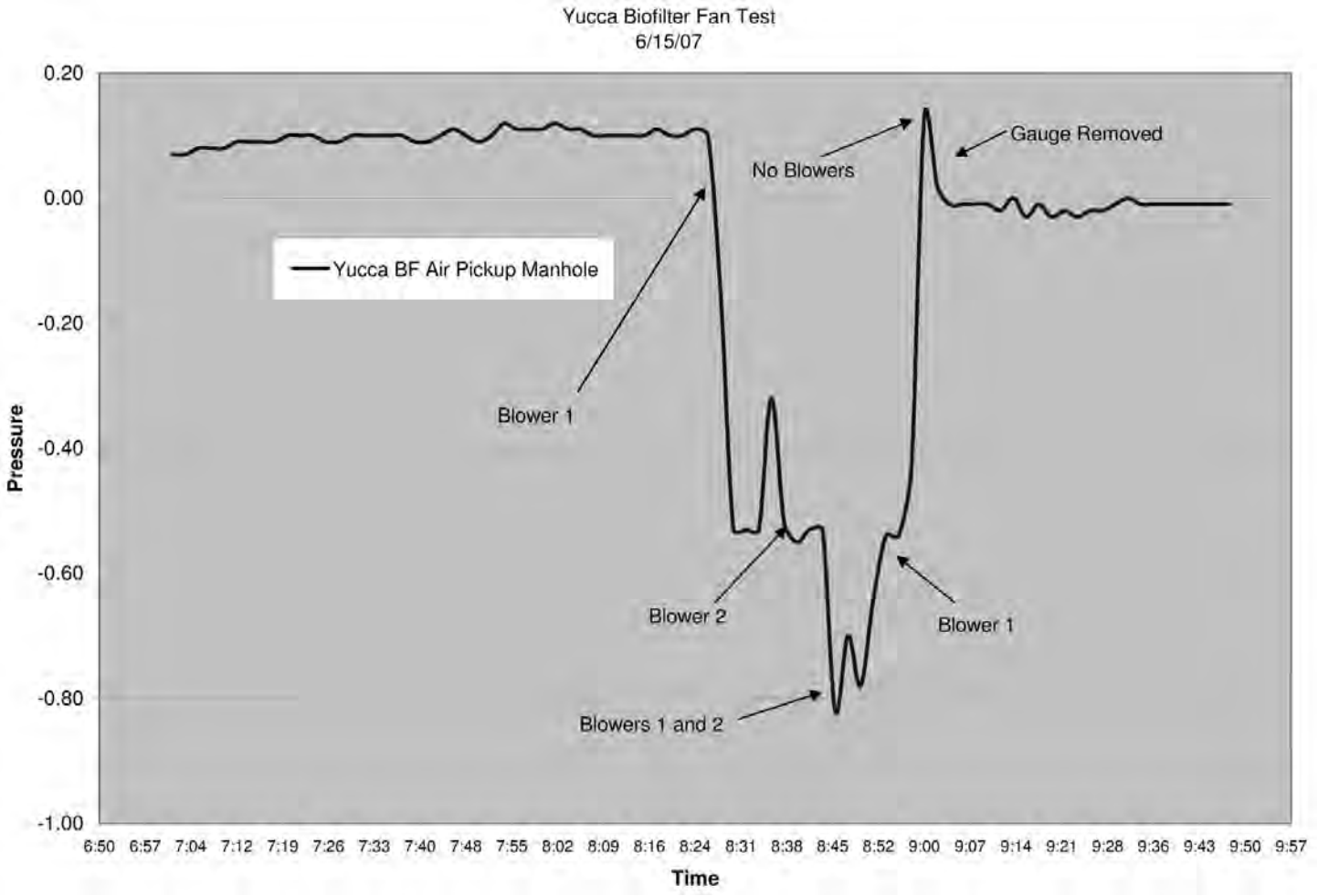
In a reach of sewer pipe that is of uniform slope and uniform diameter there should be no physical pipe attributes that would cause headspace foul air to be forced to atmosphere, but what happens if a slope reduction and/or diameter constriction occurs?

Figure 1. Idealized air velocity contours in percent of waste water velocity.



Source: Odor & Corrosion Technology Consultants, Inc.

Figure 2. Air Pressure Data with Forced Air Ventilation



Just as easily as fast-moving wastewater can accelerate headspace air, a subsequent deceleration of the same wastewater flow due to a slope reduction can retard air movement in the headspace. When this happens, the fast-moving air from upstream collides with the "reduced velocity" air in the slow-moving segment and generates a high differential air pressure zone.

Changes in wastewater velocity, most often the result of changing slopes in the sewer, have perhaps the greatest effect on the air pressure in a sewer. Increasing velocities pull harder on the air through friction, while decreasing velocities act to slow the air down. This pushing and pulling of air through the sewer establishes positive and negative pressure zones which cause the movement of air into and out of a sewer. (Smith et al., 2000; Pescod and Price, 1992).

In addition, under the diameter reduction and/or slope reduction conditions described above, a constriction in the available headspace occurs. The resulting positive differential air pressure buildup may be only a few tenths of an inch of water column, but is often enough to push out odorous air and cause complaints.

Resulting Odor Control

If such positive differential air pressure conditions have been established as the cause of odor complaints in a gravity sewer, the question then becomes, "What can be done about it?" Figure 2 presents an example of typical air pressure data that was gathered on a recent sanitary sewer odor control project in Albuquerque, New Mexico.

The air pressure data shown in Figure 2 was taken recently from a system with known source of odor complaints and positive sewer headspace air pressure. This had been determined by desktop analysis and subsequently confirmed by continuous air pressure testing in the field (Smith, 2008).

In this particular case, an in-ground biofilter was designed and built near the location of the manhole to remove odorous air from the gravity sewer and treat it through wood-chip media. Two blowers were installed for the biofilter: one duty and one standby. As shown in Figure 2, the natural air pressure in the manhole (with no blowers running) was upwards of 0.15 inches of water column, which resulted in *(continued on page 22)*

Note: See article on next page - Reproduction of Tim Neketin Benchsheet column.

US EPA

Region X
Seattle, WA

Dear EPA:

In response to your inquiry as to why the BOD on our NPDES Performance Evaluation fell so far from the tree, we think we may have found the problem(s). On the day we read those BODs we didn't notice the bottles were out of numerical order until we were finished and that kinda confused the dilution factors a bit. Of course that didn't matter anyhow because we forgot to record the dilutions. We're pretty sure that if we seeded those samples at all we probably seeded the wrong bottles.

Though there's no way to assess the effect on the result of a BOD test, we think that may have been the week the incubator froze up for a couple of days. The analyst who set up that run thinks he may have put both samples into the same bottle. It's really kinda hard to pin that one down. We're not certain but we think that was about the time we bleached out our dilution water bottles and didn't get them rinsed very well. There did seem to be some detectable chlorine in the dilution water.

The analyst who read that set thinks she may have inadvertently dumped one bottle and read another twice. Again, that's somewhat elusive as far as quality control goes. Occasionally we mess up and use a pH 4 acetate buffer instead of the 7.2 phosphate buffer for the dilution water. It doesn't seem to make much of a difference except for the smell. The smell is particularly noticeable after the water seals have dried up on the bottles under incubation.

The DO depletion on our blank that week was considerably higher than the depletion in our diluted samples but that shouldn't be a factor in this instance. It's normal for this particular laboratory. Sometimes when we dechlorinate we get an excess of sulfite but that didn't happen in this case because your samples didn't require dechlorination. Another factor that should be considered is that was the week we broke our laboratory pipette. The budget officer has assured me that we will be able to replace it after July 1.

Our DO meter was calibrated by the supplier when he set it up and we have been very careful not to change it. We do change the electrode membrane twice a year whether there are bubbles in it or not. As a quality control measure we are going to start washing our bottles occasionally. I don't think that's going to help; it will just remove the protective coating. Though tap water seems to work all right, we'll start using distilled water for the dilution water as soon as we get the still fixed (July 1). We're very careful about boiling the tap water before setting up the BODs. Would autoclaving it be better?

Hope this answers your questions on the BOD. We will be getting started on the pH and TSS problems directly. We've been having a problem with the glass fiber filters falling apart after only two or three uses.

Sincerely,
Moly B. Denum

In Memory of H. Timothy Neketin

By Keith Chapman, City of Salem

PNCWA members will remember Tim as the former lab supervisor for the City of Portland's Columbia Blvd. lab who retired in 1996 after 30 years, before the lab moved under the St. John's Bridge. Tim was quite a character, fisherman, teller of colorful stories, lover of books and words, cats, the outdoors and the music of Trini Lopez. Born and raised on the banks of Nehalem Bay in Wheeler, Oregon, Tim was quite an athlete in high school, until he broke his leg in a basketball game colliding with someone named Pudgy. He often returned to Nehalem Bay to go clamming.

Tim won several awards from PNCWA, back when it was the PNPCA, including the WEF Arthur Sidney Bedell Award for extraordinary personal service in 1993 and the PNPCA Individual Distinguished Achievement Award in 1995. He was inoculated into the Select Society of Sanitary Sludge Shovelers (5 S) in 1987. Tim could be irascible, such as the time he was pH7 (president of the 5 S) and decided one year that none of the nominees were deserving of membership so no members were added–and that was that!

Tim had a very dry sense of humor. He made a sign for the lab door that said: "Warning! This room is at Standard Temperature and Pressure." Tim was one of the founders of the WQLAS in 1977 and for his entire career he actively worked to promote good lab practices. He was also secretary of the Oregon Region of the PNCPA for many years. If you have a copy of the Third edition of Simplified Laboratory Procedures for Wastewater Examination then you know that Tim was the editor of this WEF (WPCF) publication.

Tim's stories and personality made every meeting he was in was very entertaining. He also published a series of informative and humorous articles on proper laboratory practices in the Benchsheet, the precursor of WEF's Lab Solutions. He was taskmaster and mentor to quite a few lab analysts and was the first person people would call if they were having problems with their analyses. I worked with him for only six years but we continued to correspond right up to the week before he passed away. Each letter would begin "Scappoose Anglers & Lexicography Society, H. Tim Neketin, Executive Director". (He never did tell me what the "H" stood for.)

One of Tim's former managers described how you always knew where Tim stood on any issue, "I respected him in every way. How he thought, how he lived his life, how he shot incredibly straight even if he knew that you didn't agree with him."

Once Tim was trying to find out how to do a non-routine analysis on the PRIMARY SLUDGE for petroleum products, or something like that. He called someone in a local industry who he thought might have some good ideas, and they talked for some time. Finally, the guy said, "I know who you should call, who will probably know, Tim Neketin at the Portland sewage treatment plant." Tim charitably thanked him for the referral and ended the conversation without telling the other guy what he had just done.

The mention of Tim's name always brings me a smile and a laugh. One of his best Benchseet columns, in the form of a letter to EPA, is included here, courtesy of Joe Whisler, Lincoln City Oregon Treatment Plant. Now don't mess up your BOD's!

[Editor's Note: H. (Harry) Tim Neketin died on November 1, 2008 at the age of 69.]

Asset Management

By Marc Yarlott, PNCWA Asset Management Committee Chair

Since October 2007, we have seen several significant indicators that there are winds of change that may affect our industry. In December of 2007, Al Gore and a group of experts accepted the Nobel Peace Prize for their work in studying climate change and its effects. As if to emphasize the impacts of climate change, weather was strange around the country with a longer winter and record rainfall this spring particularly in the Midwest, causing some of the worst flooding in years.

Fuel prices hit record highs along with increases in all hard inventory parts that we use to maintain and upgrade our plants. In August, the bursting housing bubble had banks failing due to "toxic" loans. The presidential campaigns keyed in on energy and climate change, after the economy. New York, California and New York City, among others, are facing significant budget shortfalls and are now lining up behind the banks for the federal government to help them out.

A post election news headline reported that President-elect Obama has vowed to "engage vigorously" in climate change talks during his administration. Obama has stated that cleaning up may "bankrupt" the existing coal industry, which likely means significant increases in the cost of energy and all energy related products. This focus on energy cleanup will impact the chemical, electricity, and transportation costs which are bound to drive up wastewater operating costs at the same time that funding for capital investment may be drying up. This new paradigm will definitely have a significant impact in 2009 and beyond.

There are positives. Municipal bonds may be viewed as a safer investment as money moves away from the stock market. Democrats typically invest in the environment, and the economic downturn may inspire "investment" by the federal government in infrustructure projects.

And some negatives. Tax revenues, particularly property and income tax bases, will see a decline with the economy. And, service rate increases will be tough politically during a slow economy. Chemicals and materials will probably continue to be high during a deflationary period due to a need for manufactures to "recover" investment in high priced materials and labor which will stall capital investments.

Surviving an economic slowdown will require very careful investment of any available capital which could be nicely captured in an Asset Management Plan. The most important starting point is to develop a prioritized ranking of your capital investments based on impacts to critical systems which should include a critical spares wishlist. Money will be difficult to raise, so be prepared to spend wisely and to account clearly for the reasons behind your priorities.

A critical system discussion is a great way to facilititate and capture knowledge of common failures. The timing of this economic downturn is unfortunate because many of our long term employees are likely to retire in the next five years. Hiring freezes may prevent bringing in new staff, and it will be important to capture this knowledge base for when things turn around.

The Asset Management Committee is looking for opportunities to help your organization through the coming year. Please feel free to contact me with questions at marc@wllcamg.com.

PNCWA Survey on Facility/Agency Workforce Continuity

YOUR FACILITY'S ANSWERS TO THIS SURVEY WILL BE COMPILED WITH OTHERS TO DEVELOP HELPFUL INFORMATION FOR ALL PACIFIC NORTHWEST WATER/WASTEWATER FACILITIES.

Please take the time to consider the questions below and reply with as many answers as you or your Human Resources Department can answer. You may respond by fax, mail or e-mail (this survey form is available on the PNCWA homepage under QUICK LINKS at www.pncwa.org).

1. How many employees does your facility/agency currently employ in the following two categories?
   O&M, Lab, Collections _____ Manager and Supervisory _____

   How many of these current employees do you expect to lose to retirement within the following timeframes?

   0-5 years O&M, Lab, Collections _____ Manager and Supervisory _____

   5-10 years O&M, Lab, Collections _____ Manager and Supervisory _____

   How many of these current employees do you expect to lose to voluntary turnover other than retirement within the following timeframes?

   0-5 years O&M, Lab, Collections _____ Manager and Supervisory _____

   5-10 years O&M, Lab, Collections _____ Manager and Supervisory _____

2. Does your facility/agency currently experience difficulties filling open positions?

   O&M, Lab, Collections positions ☐ Yes ☐ No

   Manager and Supervisory positions ☐ Yes ☐ No

3. If yes in #2: Perceptions of Reasons for Recruiting Difficulties (please check all that apply)

	O&M, Lab, Collections	Manager and Supervisory
Insufficient number of applicants meeting qualifications		
Insufficient funding for open positions		
Small applicant pool due to geographic area		
Lack of interest (nature of work)		
Lack of interest (salary)		
Lack of opportunity for advancement		
Other (please specify) _____	☐	☐
_____	☐	☐

4. Does your facility/agency have a current workforce succession plan that accounts for projected retirements and other vacancies? ☐ Yes ☐ No If yes, please outline here or send additional information:

5. Is your facility/agency wastewater only or water/wastewater? ☐ Wastewater only ☐ Water/Wastewater

6. Do you believe workforce succession planning is a significant issue for your organization? ☐ Yes ☐ No

Other comments related to workforce challenges or workforce continuity issues? Please send on additional page.

Facility/Agency Name_____

Address, City, State, Zip_____

Person filling out survey_____Phone_____

E-mail_____Date_____

RETURN BY FAX TO: 208 455.8382 RETURN BY E-MAIL TO: nancluss@pncwa.org

RETURN BY MAIL TO: PNCWA, PO Box 1075, Caldwell, ID 83606

QUESTIONS? Call 208 455.8381

Enviroquip proves that a 2.0 MGD municipal MBR can be affordable

Project team

Design Engineer
Gibbs & Olson

General Contractor
McClure & Sons

Major Equipment Supplier
Enviroquip

$6/gallon constructed cost includes:

Project highlights	Enviroquip® MBR features
New headworks	Single-stage 3mm screening
New membrane bioreactor	Kubota® EW 400 flat plate membranes
New PLC/MCC/SCADA	Energy Pro™ (proportional aeration)
New solids processing (Class B)	PAD-K™ (membrane-thickened aerobic digestion)
New UV disinfection	UNR®1 process design
New lab/office	Simple and economical phased expansion

tec Pacific Northwest

Enviroquip

a division of Eimco Water Technologies

For more information contact Treatment Equipment Co. 800.454.4306

A GLV COMPANY

Nan Cluss

Michael Rainey

It's What We Do

An e-mail came in to the PNCWA office in November from a municipality involved in contract negotiations. The question was if we had information on the statistics of expected wastewater operator turnover rates in the Pacific Northwest in the next 5 years. We didn't have any specifics to offer but agreed that it was an important issue that is just going to get bigger in the years ahead as the Baby Boom workforce ages and retires.

Some research on the WEF website and elsewhere gave us a bit of information to pass on (some succession planning ideas from utilities outside the Northwest; the chart below). But that didn't answer the question. After a series of e-mail exchanges, it became obvious here in the office that PNCWA is poised to be the gatherer of this information and serve the industry in our area by compiling it for the use of all interested.

Thus the survey you see on page 15. We encourage all facilities to take the time to fill it out and send it in so that all can benefit. And if you are a person that visits facilities in your weekly work, please have some copies in hand as leave behinds and encourage participation. That just may be the facility that needs the collective information in the not too distant future.

In the next issue, we'll summarize some of the succession plans we read about…the issue of workforce sustainability both in the area of facility and engineering firm workforces is high on the list of PNCWA priorities. Why? Because it is our mission to serve the water/wastewater community of the Pacific Northwest. It's what we do.

From W&ET September 2008 on Succession Planning

- The oldest of 79 million baby boomers turned age 60 in 2006, according to the U.S. Bureau of Labor Statistics.
- In the United States, someone turns 60 every 7 seconds, according to the U.S. Department of Health and Human Services.
- According to the U.S. Bureau of Labor Statistics, more than 25% of the working population will reach retirement age by 2010, resulting in a potential worker shortage of nearly 10 million.
- Within the next decade, the average water utility will lose 50% of its current employees, according to the American Water Works Association (Denver).
- Utilities are training full-time employees 20 hours per year, which is inadequate.
- The average tenure in the utility business is 24 years.
- A study of the electrical industry has determined that 80% of useful operational knowledge is tacit knowledge understood but not documented.
- The retiring water and wastewater industry skilled personnel learned their trade on the job through hands-on training, seminars, workshops, and trade shows - a mix of actual experience and formal training that is difficult to duplicate today.
- Public works salaries from cities and governments are often 25% to 40% lower than similar positions in industry, making recruitment more difficult.

Water Environment & Technology (WE&T) from the Water Environment Association is the premier magazine for the water quality field. WE&T provides information on what professionals demand: cutting-edge technologies, innovative solutions, operations and maintenance, regulatory and legislative impacts, and professional development. www.wef.org/magazine.

In The Safety Spotlight

City of Vancouver WA/Veolia NA

The City of Vancouver/Veolia NA safety program received the 2007 WEF George W. Burke, Jr. Award at the PNCWA annual conference, as well as certificates in Division A for 2002, 2006 and the Division A plaque for 2007. The City of Vancouver owns a collection system serving 200,000 people that includes 36 lift stations (6 are operated and maintained by Veolia Water) and over 700 miles of sanitary sewers. The city spends $3 Million per year constructing new sewers in neighborhoods with septic tanks, at a about a 40 percent replacement rate by assisting property owners with phasing out their septic tank.

Veolia Water operates the 28 mgd Westside treatment plant with average daily flow of 16 mgd discharged to the Columbia River, and the 16 mgd Marine Park treatment plant that averages 10 mgd. Staff also operates the 3.2 mgd Industrial Pretreatment lagoon which services three industries discharging high strength BOD wastewater.

Eighteen operators and nine maintenance staff run the three treatment plans and six pump stations. Strict effluent limitations, especially for nitrogen and phosphorous, are met with automation and process control instrumentation. Four water quality laboratory scientists perform the laboratory analysis, maintain records, complete reports, and monitor effluent treatment plant effluent and Columbia River water quality.

Veolia Water's active Safety Committee meets monthly and assists in resolving issues within the facilities, performing Root Cause Analysis on Minor Injury Reports, Near Miss Incidents, and when necessary Recordable or Lost Time Injury reports. The Safety Committee performs monthly safety checks on 600 items for all departments including pump stations, using a checklist for emergency lights, exit signs, housekeeping, fire extinguishers, first aid kits, and related safety equipment, as well as evaluating unsafe conditions.

Veolia's Workplace Injury Treatment policy manual sets the standard and actions that all employees are responsible for involving work-related injuries, illnesses, or near-miss events. A web-based system tracks injuries, illnesses and incidents, as well as incident, environmental and OSHA reports.

Fire extinguisher training for Vancouver/Veolia staff.

Participative management involves employees in the selection of PPE based on their preferences for equipment, and several new engineering controls that have improved safety. Safety Improvement Teams make recommendations to the Safety Committee, and are rewarded when their recommendations are implemented. Corrections recommended by an ergonomics consultant brought immediate results, such as the employee whose redesigned office allowed him to recover from carpal tunnel.

The safety policy outlines the expectations of employees and provides permission and/or authority to ensure a safe work environment. Specific written policies required by WISHA and other mandates for a wide range of topics from Bloodborne Pathogens to Visitors are maintained separately. Each site has an Emergency Response Plan and conducts emergency response drills annually. Operators use cell phones and local 2-way radio systems for emergency communication.

Most training is on-site by managers, Risk Management staff, and others, and is available to all employees regardless of shift schedules. Interactive training sessions on a wide array of topics offer prizes for recall of safety information, and first Aid/CPR/AED training is available to all employees with about 38 currently CPR certified. Personal safety training is part of the monthly training sessions, and Clark County Sheriff's Office provides segments on identity theft and scams in the area.

Veolia Water believes safety should go beyond that required by regulatory agencies, to create a safe environment by fostering a safe work culture and gaining skills and knowledge that could save the lives of friends and family. Veolia Water hosts quarterly family events with food and safety information, sponsored by the Safety program to show appreciation for the hard work of employees

on safety issues, such as the popular Family Bowling Night for friends and family that includes prizes. Daily tailgate meetings are combined with "Stretch and Flex" sessions. Emergency Response Drills are conducted annually, including SWAT teams and bomb squads. In 2007, 556 total hours of safety training were conducted. Fitness includes an on site low impact workout facility for all employees to help eliminate or decrease strains and sprains, the most common type of injury. An additional safety measure is computer login because plant operators sometimes work alone. Staff is scheduled to login to a computer at appointed times and if they miss a login SCADA calls them, and if there is no response then supervisors and managers are called at any time of day. The Project wide safety program strives to incorporate a safety mindset into the daily operation and maintenance programs using Mental Safety Assessment (MSA).

The treatment plant staff have an admirable safety record of reducing injury frequency and severity and has not had a lost time accident since November of 2005. This record is directly related to the attitude of all employees. Congratulations to the staff of City of Vancouver/Veolia Water NA.

Confined space entry training makes this work a little easier.

Join the PNCWA Sustainability Committee!

Interested in how we can develop a more sustainable water and wastewater industry? Join PNCWA's Sustainability Committee! Building upon growing interest related to energy, conservation, low impact development, green design, and other sustainability-related topics, PNCWA is forming a Sustainability Committee to provide training and other resources to our members. Please contact Chair Jennifer Belknap Williamson at jbwilliamson@brwncald.com or 503-977-6617 if you are interested in joining the Committee or have ideas for topics you would like the Committee to address through workshops and other activities.

Thank you for all 2008 In-Kind Contributions to PNCWA

In addition to financial sponsorships in support of PNCWA each year, many activities of PNCWA are supported by organizations in such forms as volunteer time, covering travel expenses incurred by volunteers, and donating services. Many thanks to the following organizations for these kinds of support in 2008. And although not listed here, all PNCWA committee members provide value in fulfilling the mission of PNCWA—thanks to all of you and to your organizations as well.

Brown and Caldwell
- Max Hildebrand, PNCWA Board of Directors
- Jennifer Belknap Williamson, Practical Sustainability Program Committee, Sustainability Committee Chair

Carollo Engineers
- Rick Shanley, PNCWA Board of Directors
- Mary Hansel, Practical Sustainability Program Chair
- Brian Casey, Member Services Committee Chair
- Allen deSteiguer, Water Reuse Committee Co-Chair
- Susanna Leung, Emerging Technologies Committee Chair

CH2M HILL
- Michelle Burkhart, PNCWA Board of Directors, Practical Sustainability Program Committee

CH2M HILL OMI
- Jack Bennion, PNCWA Board of Directors

City of Boise, ID
- Catherine Chertudi, Stockholm Junior Water Prize Support

City of Pullman, WA
- Andy O'Neill, PNCWA Board of Directors, Leadership Development

City of Salem, OR
- Stephanie Eisner, Water Reuse Committee Co-Chair

Clackamas County WES
- Ed Gilmore, Constitution & Bylaws Committee Chair

Clean Water Services
- Hosted the Ops Challenge Training Workshop
- Karen DeBaker, Public Education Committee Chair
- Sheri Wantland, Newsletter Editor
- Kevin Hayes, Newsletter Layout
- Mark Poling, Operations Challenge, Water For People Latrine Building Fundraiser
- Carrie Pak, Incoming Collections Committee Chair

Eagle Sewer District
- Lynn Moser, Collections Committee Chair

GE Water & Process Technologies
- Paul Schuler, PNCWA Board of Directors

Goble Sampson Associates
- Doug Allie, PNCWA Board of Directors, Manufacturers Committee Chair

Godwin Pumps
- Provided pump for Ops Challenge Pump Maintenance Event

HDR
- Kristi Nelson, PNCWA Board of Directors, Students and Young Professionals Committee Lead
- David Keil, 2009 Conference Chair
- Mark Smith, Incoming Odor and Air Quality Committee Chair

J-U-B Engineers
- Steve James, Practical Sustainability Chair

Kennedy/Jenks Consultants
- Ron Moeller, PNCWA Board of Directors
- Heather Stephens, PNCWA Board of Directors
- Preston Van Meter, Operations Challenge Committee Chair, Water For People Latrine Building Fundraiser

MWH
- Dale Richwine, PNCWA Board of Directors

Oak Lodge Sanitary District
- J. Michael Read, Practical Sustainability Program Committee, Strategic Planning

Parametrix
- Mike Ollivant, 2008 Conference Chair

Portland BES
- Dave Kliewer, Practical Sustainability Program Committee

Salmon Creek WWTP
- Kay Hust, PNCWA Board of Directors

Tetra Tech
- Irene Wall, Water for People Committee Chair, Latrine Building Fundraiser
- Grizelda Sarria, Odor and Air Quality Committee Chair

University of Idaho
- Erik Coats, 2009 Technical Program Chair

University of Washington
- H. David Stensel, 2008 Technical Program Chair

Veolia Water NA
- John Shawcroft, PNCWA Board of Directors
- Celeste Vialet, Source Control Committee Chair
- Marc Yarlott, Asset Management Committee Chair
- Shane Jeff, Incoming Safety Committee Chair

WA Department of Ecology
- Mark Henley, Regulatory Committee Chair

West Yost Associates
- Lynne Chicoine, 5S Committee Chair

Whitney Equipment Company
- Provided funding support for the offsite Students and Young Professionals Meet & Greet at the annual conference

Sleuthing Gravity Sewer Odors *(continued from page 11)*

odorous air being forced from the sewer to atmosphere on a daily basis. When Blower 1 is turned on, the air pressure immediately is reduced to -0.5 inches of water column. Blowers 1 and 2 working simultaneously result in an air pressure value of -0.8 inches of water column. When both blowers are turned off the air pressure immediately returns to approximately 0.15 inches of water column (Smith, 2008).

Conclusion

Positive differential air pressure buildup in gravity sanitary sewers is the root cause of odorous air being forced to atmosphere from such systems. Once an understanding of the location of such phenomena is established, a properly designed forced-air ventilated odorous air scrubber, such as the biofilter described in this article, can be built to keep the sanitary pipe headspace under negative pressure, remove the odorous compounds from the foul air stream and release odor-free air to atmosphere.

Sources

Smith, M.M. Joyce, J. J., Sorensen, H.W., "Prevention of Odor Production and Release in Wastewater Collection Systems Resulting from Separation of Combined Sewer Systems", Proceeding of the Water Environment Federation Annual Conference, Anaheim, CA, October, 2000.

Pescod, M.B. & Price, A.C., "Major Factors in Sewer Ventilation", Journal of the Water Pollution Control Federation, 54, v, 1982.

Smith, M. M., "Dual Phase Collection System Odor Investigations: The Liquid Phase Might not be Enough!", Proceedings of the 2008 Water Environment Federation Collection Systems Specialty Conference, Pittsburgh, PA, May, 2008.

Correction to Last Newsletter

Celeste Vialet and James Clark are also members of PNCWA's Select Society of Sanitary Sludge Shovelers (5 S). The article on page 25 inadvertently omitted their names.

When Passions and Career Meet the Road

Adapted from an article by Dianne Crilley, WEF Senior Manager, Governance & Association Programs

Who is the hottest commodity in the job market today? Surely, those born between 1980 and 2000 give all others a serious run for the money. Individuals from these year groups are sociable, optimistic, talented, well-educated, collaborative, open-minded, influential, and achievement-oriented. They arrive in the market place with higher expectations than any generation before them—and possess a higher level of maturity. They're extremely well networked and if an employer doesn't match their preconceived expectations, they can tell thousands of their peers with one click of a mouse.

Meet the Millennial Generation.

It is the millennials who as generations before are entrusted to ensure that science and society move forward –but in a more sustainable, emancipating and humanizing manner guided by an evolved social conscience. Because millennials have grown up during a time of truly significant economic growth on a worldwide scale, their expectations for the future are understandably significantly higher than previous generations. For them the only constant in the globalized world is change itself.

One resounding hallmark of this group is their strong sense of social responsibility supported by compassion and motivated by a commitment to benefit society while ensuring individual growth and the attainment of professional aspirations. Since 1980, the number of nonacademic science and engineering jobs (outside of a teaching environment) has grown at more than four times the rate of the U.S. labor force as a whole. We are currently preparing to pass the reins of sustaining the future of the Water Environment Federation and its MAs (Member Associations) such as PNCWA to the capable hands of our young millennial professionals.

The pent-up power of this group fueled by their inherent "can do" attitude is critical to getting the word out with a stress on the importance of involvement in WEF and MA activities. It must be done, as they are crucial elements to completing the equation.

Current WEF Members have but one regret: "Not joining WEF sooner"

Often we hear comments from young new members that they were not aware of WEF, its annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), or its MAs. Introducing engineering students through student chapters, academic mentors, working with the WEF and MA Students and Young Professionals Committees and placing YPs (young professionals) in leadership positions will begin to strengthen and increase WEF/MA awareness.

A natural solution is to get young professionals involved now. Seek out seasoned volunteers who will listen, ask the right questions and who have the knowledge to prescribe the right direction to YPs. Set in motion a tide of energy to proudly promote an environment of hope, change and improvement through involvement in PNCWA and WEF. The vision of preservation and enhancement of our global and local water environments is the basis for all WEF and PNCWA programs and activities.

Sustainable management of water resources, water protection, and water/wastewater treatment is much more than just doing a job. As the next *(continued on next page)*

Passions and Careers *(continued from page 23)*

generation of water quality leaders prepare to grab the reins, they will look for ways to solve the issues at hand while delivering high-quality products and services to members and stakeholders. We need to do all we can to make sure they experience and understand early on in their careers the power of a community of like-minded professionals with access to the latest in water quality developments, research, regulations, solutions and training opportunities.

WEF believes that our continued growth and development will depend on our ability to mentor young professionals entering the water quality field. To achieve this goal, we must provide YPs the tools, resources, and networking opportunities needed in order to grow their individual careers. Volunteering on a PNCWA or WEF committee will help our future leaders better understand our organizations, how to effectively work within a committee and the organization, and offers an opportunity to help shape the water quality industry today and for tomorrow.

Make the Future We Want through the Skills of Millennials

These citizens of the environment look for leadership from their organization that can set achievable goals, provide direction, stay focused, keep on task, and offer team involvement. However, "time commitment" will play a big role in how involved these individuals become in volunteer organizations. The challenge is how to fit their job, a family and stewardship into one's day. Young professionals will embark on unconventional methods to achieve a longer lasting foundation, with deliverables that meet the needs of the time.

As a member of WEF and PNCWA, we encourage you to consider the responsibility of identifying potential leaders and active young participants for our organizations. We are committed to providing the tools and resources for them to become leaders within the organization and the global water community.

Infrastructure *(continued from page 7)*

and immediate satisfactions for a longer term public good that benefits the whole of society rather than just us. The analogy of a rising tide raising all boats is apt here.

Our deficiencies in just about every area of public infrastructure investment have been documented by the American Society of Engineers in its annual infrastructure investment report card. In the United States, federal investment in infrastructure is less than 3% of GNP. In the 1950s, that share was in the 10% range. It has been going down ever since. By some estimates, the funding gap for all public infrastructure is in the area of $1.6 trillion over five years, and water and sanitation are a big piece of the gap nationally.

The argument is often made that water and sanitation infrastructure are and should be local responsibilities and they are. But it is also clear that if local governments were able to meet all their needs, there would not be a national funding gap. The private sector would have us believe that all that is necessary is to enable the wholesale privatization of public infrastructure and the gap would go away. The experiences of Europe, South America and Asia suggest otherwise.

Local public infrastructure is a matter of national interest and priority…or at least it should be. Our economy, our competitiveness and even our security as a country depend upon the strength of our infrastructure and what it lends to every aspect of what we call our quality of life. The sum total of our national experience is the sum of our parts…the states and local governments where everyone lives, where all tax dollars are generated and most spending occurs, should be a national priority.

In this context, all infrastructure is important for economic development, security and quality of life. But water and sanitation infrastructure are critical for life itself…that should count for something.

From the President *(continued from front page)*

of our volunteer bases, which will be even more critical as our respective workforces shrink. By utilizing the expertise of both organizations, we can provide more extensive training programs that cover the multitude of areas that impact our collective members. During our initial discussion, we identified nearly 30 technical and non-technical areas of mutual interest. Technical areas include membranes, pharmaceuticals, reclaimed water, biosolids, SCADA, and climate change, while non-technical areas include public outreach, workforce succession planning, finance, leadership, and emergency response.

In addition to providing more comprehensive training in these areas, I believe the quality of our training programs will be enhanced by integrating both the expertise and unique perspective of our respective organizations. We will also be able to realize economies of scale by conducting joint training programs. Furthermore, by working together we can address the need for joint training that is required for our members that currently work in both water and wastewater. While there are some successful joint conferences, one of our goals will be to increase accessibility to water/wastewater tracts and streamline the CEU process for obtaining joint credits.

In addition to working with PNWS-AWWA, we are also looking for opportunities to team with other non-profit groups with whom we share a mutual interest. For example, I recently had lunch with representatives from Engineers Without Borders (EWB), an outstanding group of volunteers largely focused on providing sanitation and safe drinking water in developing countries. One thing EWB has done extremely well is to energize students, as they have active student chapters at numerous universities in the Northwest. They are very interested in partnering with PNCWA on a student level, which I see as a great opportunity to revitalize our own student chapters. The "partnering with organizations" approach is also being promoted at the WEF level. In fact, at a recent WEF Leadership Day training in Chicago, the afternoon section focused on working with agencies such as Peace Corps, EWB, and Water For People.

Given the possibilities to streamline our volunteer needs and provide improved training, watershed based solutions, innovative technology development, a pipeline to students, and a stronger voice to the public and legislators, I am very excited to develop new partnerships with other organizations. However, there are potential hurdles that need to be considered if we are to successfully partner with other organizations, including perceived loss of autonomy, making sure all successes (or failures) are shared, and that various sections have a voice in the process. As long as we recognize the potential hurdles that exist and move forward in a logical, step-wise manner, I believe we can successfully address these and the other unforeseen challenges that will arise.

Science Teachers *(continued from front page)*

heavy demand for the 2009-2010 Adopt-a-School program.

We learned that teachers are very interested in our programs but don't have time to research new materials and programs. Grant applications must be simple and quick. They need lab equipment. Funding for buses and substitute teachers would be invaluable. Professional speakers from our industry to present to their classes. Many suggested expanding Adopt-a-School to middle school. We gave two Water SourceBooks to teachers who simply had little backing from their schools for curriculum material, and directed everyone to the WEF website to download the book for free. An Anacortes high school teacher, who was a chemist for CH2M Hill finds teaching rewarding but is frustrated by the lack of funding for science programs in her school, agreed to be an advisor to the PNCWA Public Education Committee.

We connected with the Washington Science Teacher Assn (WSTA) and the Oregon Science Teachers Assn (OSTA) and hope to attend their state conferences next year. Both will promote PNCWA programs via their list serves and member newsletters. I also learned about the Oregon Natural Resources Education Program's facilitators who instruct teachers on environmental curriculums. Even teachers who could not attend the workshop have emailed to request materials and information. It was simply an amazing and invaluable experience!

Current Board of Directors, Committee Chairs, and Section Presidents

Board of Directors

President
Rick Shanley, 503-227-1885

President Elect
John Shawcroft, 208-455-3041

Vice President
Andy O'Neill, 509-338-3233

Secretary
Heather Stephens, 503-295-4911

Treasurer
Kristi Nelson, 503-423-3732

Past President
Ron Moeller, 360-748-8340

WEF Director
Michelle Burkhart, 503-235-5000

WEF Director
Doug Allie, 425-392-0491

Regional Director-Idaho
Jack Bennion, 208-734-9933

Regional Director-Oregon
Max Hildebrand, 541-754-1784

Regional Director-
W Washington
Kay Hust, 253-946-5439

Regional Director -
E. Washington
Pending

Committee Chairs

Asset Management
Marc Yarlott, 360-635-5453

Awards (General)
Andy O'Neill, 509-338-3233

Awards (Burke/Safety)
Mike Myers, 360-537-0060

Collections Systems
Carrie Pak, 503-681-3646

Conference 2009
David Keil, 208-387-7069

Conference Program 2009
Erik R. Coats, 208-885-7559

Constitution & Bylaws
Ed Gilmore, 503-557-2834

Emerging Technologies
Susanna Leung, 206-684-6532

Futures
Ron Moeller, 360-748-8340

Leadership Training
Andy O'Neill, 509 338-3233

Manufacturers & Representatives
Doug Allie, 425 392-0491

Membership Services
Brian Casey, 503-227-1885

Newsletter
Sheri Wantland, 503-681-5111

Odor & Air Quality
Mark Smith, 503-423-3727

Operations Challenge
Preston Van Meter, 503-295-4911

Public Education
Karen DeBaker, 503-681-3643

Safety and Occupational Health
Shane Jeff, 208-878-3984

Site Selection
John Poppe, 360-895-2440

Sustainability
Jennifer Belknap Williamson
503-977-6617

SSSSS
Lynne Chicoine, 503-235-5000

Source Control
Celeste Vialet, 208-455-3041

Students & Young Professionals
Open

Water for People
Irene Wall, 206-443-3570

Water Reuse
Stephanie Eisner, 503-763-3478

Idaho Section Presidents

Northern
Ron Mackin, 208-263-0229

Southeast
Jean Gorringe, 208-878-3984

Southwest
Randy Schwartz, 208-642-6031

Oregon Section Presidents

Water Quality Lab Analyst Section (WQLAS)
Cory Fortez, 503-618-3451

Lower Columbia
Noah Harvey, 503-547-8153

South Central
Dan O'Malley, 541-385-6199

Eastern Oregon
Jeff Brown, 541-276-3078

Umpqua Basin
Steven Miles, 541-496-3661

Maintenance
Kevin Bruton, 541-673-6570

West Central
Mark Landau, 503-838-2173

Southwest
Bob Dillard, 541-756-6078

Western Washington Section Presidents

Northwest
Heather Earnheart,
425-789-1940 (Treasurer)

Olympic Peninsula
Pete Tjemsland, 360-683-3883

Puget Sound
DeAnna Windh, 253-945-1606

Southwest
Dan Chitwood, 360-330-7512

Eastern Washington Section Presidents

Columbia Basin
Troy Zerb, 509-754-2992

Inland Empire
Mike Coster, 509-625-4640

Yakima Valley
Daryl Bullard, 509-575-6077

For more information, please contact PNCWA via:

www.pncwa.org
or
Nan Cluss
Michael Rainey
PNCWA Association Managers

P.O. Box 1075
Caldwell, ID 83606
Phone: 208-455-8381
fax: 208-455-8382

Full contact information is available at www.pncwa.org

2009 Annual Conference

Sharing Solutions: Technology and the Workforce

Boise Centre on the Grove • Boise, Idaho • September 13-16, 2009

Plans are already well under way for the PNCWA 2009 Annual Conference in Boise. We'll have a lot of the details in the next newsletter but here are some things to get you started:

Call for Abstracts is OPEN

We encourage submittals from all professionals, including facility operations staff, engineers, regulatory personnel, facility managers, and university researchers. To get more information or to submit an abstract, go to www.pncwa.org and click on the Submit Abstract QUICK LINK.

The call will close March 15, 2009 — no extensions this year!

Get Your Rooms Booked Early!

For detailed information on contracted conference hotels, go to www.pncwa.org and click on the 2009 Conference QUICK LINK. Here are the basics:

Conference Headquarters Hotel

Grove Hotel (same block as the conference site)
888.961.5000
Single/Double $115
Group name/number: Pacific Northwest Clean Water Association #5627

Hotel 43 (across the street from conference site)
208.342.4622
Single/Double $129
Group name: Pacific Northwest Clean Water Association

Historic Owyhee Plaza Hotel (5 minute walk)
800.233.4611
Single/Double $85
Group name: Pacific Northwest Clean Water Association

Modern Hotel and Bar (5-10 minute walk)
208.424.8244
Single/Double $89
Group name: Pacific Northwest Clean Water Association

Residence Inn by Marriott (20 minute walk, 5 minute drive)
208.344.1200
Studio Suite $109; Penthouse Suite (2 bedrooms) $139
Group name: Pacific Northwest Clean Water Association

Conference Chairs

Want to volunteer? Contact the appropriate conference chair below and let them know your interest.

David Keil—2009 Conference Chair
HDR
Boise, ID
208.387.7000
david.keil@hdrinc.com

Erik R. Coats—2009 Technical Program Chair
Department of Civil Engineering
University of Idaho
Moscow, ID
208.885.7559
ecoats@uidaho.edu

Douglas Allie—2009 Exhibitors Chair
Goble Sampson Associates
Issaquah, WA
425.392.0491
dallie@goblesampson.com

Photo courtesy of Downtown Boise Association.

BoDo—Boise's Brand New Downtown Entertainment District

Where there's something for everyone! New since the last PNCWA Boise conference, this new development located right across the street from the Boise Centre on the Grove features a variety of restaurants, specialty boutiques, music options, ice cream and coffee houses, bars, and other entertainment options. Be ready to experience Boise like never before.

Pacific Northwest
Clean Water Association
P.O. Box 1075
Caldwell, ID 83606

Non-Profit Org.
U.S. Postage
PAID
Portland, OR
Permit #816