

Advancing Water and Wastewater Position Standing

Shaun Fielder, Executive Director

Vermont Rural Water Association, in cooperation with the National Rural Water Association (NRWA) continues to advocate the value of professional careers in the water and wastewater industry. Toward this goal VRWA will be leading an initiative for personnel to be recognized as, "System Operations Specialist." Water sector personnel all across the country maintain regulatory compliance, protect the environment, provide a safe drinking water product, and provide top notch service to their customers. It should be apparent the water and wastewater system for a given community serves a critical function for business and therefore is a key factor in the overall economic health of our state and the country.

According to a recent Readers Digest Magazine article, there are approximately 108,330 system personnel who operate water and wastewater systems. In the article, these positions are listed in the second position of, "Top 10 Jobs Americans Cannot Live Without." People employed in these positions have tremendous responsibilities and liabilities, yet are virtually out of sight/out of mind to the public they serve and

Spotlight on Pure Water for the World

A Vermont-Based Organization Working Globally

Liz Royer, Water Systems Specialist

Did you know that right here in Vermont there is a non-profit organization working to provide clean drinking water in developing countries? Pure Water for the World (PWW) currently works in regions of Haiti and Honduras that lack sustainable safe drinking water. Based in Rutland, Vermont, PWW partners with local governments and community organizations to select the appropriate treatment technology and implement cost effective projects. Their program also

emphasizes education as a critical component by providing ongoing hygiene and sanitation training, parasitic treatment, and follow-up monitoring.

Pure Water for the World began in 1994 when a dentist from the Brattleboro Rotary Club volunteered to go to a small Salvadoran village to provide medical services. He was moved by the poor living conditions and vowed to make a difference and do something. With the support of his Rotary Club, he decided to help the people by providing rural villages with potable water. The success and

interest of the club's activities soon outgrew the capacity of the Rotary Club. As a result, Pure Water for the World, Inc. was set up as a 501c3 organization to carry out this important humanitarian effort in 1999.

Like most of Vermont's public water systems, Pure Water for the World has to consider numerous factors when choosing the most appropriate treatment solution.

Among the factors they consider are: community needs, cost,

reliability, power, location, simplicity, quantity, quality, and supply chain. Satisfying many of these requirements has led Pure Water to advocate slow sand filtration as the preferred methodology in most locations. The intermittent slow sand (bio) filter has been extensively tested in university laboratories and has proven economical and effective in thousands of field installations. In its home or school applications, the filter is about the size of an office water cooler, constructed of either concrete or plastic with plastic piping, and filled with multi-



Pure Water for the World Staff at the Port Au Prince, Haiti office

Who We Are

Since 1982, Vermont Rural Water Association has supported water and wastewater systems across the state. We provide many services, including training, source water protection planning, and onsite assistance.

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News Leaks is the official publication of VRWA. It is published quarterly for distribution to operators, owners, managers and board members of water and wastewater systems in Vermont, as well as to association members, water and wastewater service providers, regulators, and other friends. Opinions expressed in the newsletter do not necessarily reflect the views and policies of VRWA.

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Letters

Recent training feedback received:

“Very informative.”

“Lots of good info.”

“Energized and eager for each situation.”

“Very good overview of new regs.”

“...gained a lot of info.”



Dan Whipple (VOSHA) leads recent Hazardous Communications Training in Enosburg



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News on Tap

Annual Conference

Our Annual Conference is set for May 1 and 2 at the Lake Morey Resort. All of us at VRWA look forward to another successful event starting with our annual golf tournament on the afternoon of May 1 and training and vendor show on May 2. This year's lunchtime entertainment will be provided by Vermont storyteller **Willem Lange**.

Registration forms have been mailed. You may also register by visiting us at vtruralwater.org or calling 802-660-4955 ext. 305.

Register before April 15th to take advantage of the early-bird rate!

Another Successful Visit to Capitol Hill

This February VRWA again took part in the annual rural water rally in Washington, D.C. It was another interesting visit to DC particularly given all the ongoing discussions in regards to the fiscal cliff, continuing resolution for FY2013 budget, and unknowns surrounding these issues. As of the time this item is being prepared Congress has passed another continuing resolution and therefore our nation has a budget established through September 2013. The FY2014 budget (October 2013 to September 2014) is now being debated. VRWA and all other rural water affiliates continue to advocate for funding support to insure various training, technical assistance and source protection planning support is adequately funded. All of you are well aware this support insures you have the extra resources at the local level to keep up with the regulations, receive local support on various operations and troubleshooting issues, and access to varied continuing education to maintain certification.

There are a number of ways you can help with the advocacy process and some include; providing a letters of support, maintaining your membership, or becoming a member. We keep regular contact with Senator Leahy, Senator Sanders and Congressman Welch's office and the noted support items really get the point across of how valuable rural water service is in our state. We will keep everyone updated on the appropriations process and particularly rural water funding for FY2014 and beyond.



VRWA on Capitol Hill - On the way to visits at Senator Leahy, Senator Sanders and Congressman Welch's office to advocate for rural water funding. (l. to r. Rod Lamothe VRWA Director, Gilles Blais VRWA Founding Director, Ed Savage VRWA President) photo by Shaun Fielder.

Great American Water Taste Contest

VRWA was honored to assist Champlain Water District (2012 winners Vermont Taste Contest as coordinated by the Vermont Drinking Water Week Committee) with entry of their product into the NRWA Great American Water Taste Contest held in Washington, DC during the Rural Water Rally event. Unfortunately CWD didn't place in the national contest but regardless we respect and appreciate their efforts to provide the best tasting product in the state of Vermont. The winner of this year's Great American Water Taste Contest was the Prairie Du Sac water system from Wisconsin.



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Yankee Ingenuity: Continuing Stories of System Innovations

Wayne Graham, Wastewater Specialist

This column details unique solutions to difficult problems that operators come up with everyday. Below are several cases of operators solving large problems, saving money and making life at their second homes (treatment plants) a little easier.

- The Village of Jeffersonville took a unique approach to dealing with accumulated lagoon sludge and solids handling at the Jeffersonville aerated lagoon facility. This is a two cell lagoon plant which makes lagoon sludge removal very difficult. It is quite a balancing act to dewater and perform sludge removal in one lagoon, while holding onto all of the flow in the other without discharging a partially treated effluent!

Not only a difficult balancing act but very labor intense and expensive. After extensive research the Village decided to purchase a sludge dredge system and geotextile tubes for sludge dewatering. The biggest benefit of this system is that the lagoons can stay in normal operation while sludge is removed from the floor of the lagoons. The operators are very happy with the process. Let me know if you want any info on this.

- A neat trick for push type sewer camera users is to insert the camera head into a length (or two) of pvc electrical conduit with a 90 degree sweep at the end. This allows the camera operator to avoid confined space entries into manholes. Just insert the sweep into the line to be inspected and push!

Another helpful tool for push cameras is some type of wheeled pipe centering device, several are available for purchase. These units keep the camera head out of water/debris in the bottom of the pipe, they also allow for longer inspection distances.

- Many treatment facilities (I have seen this in Hardwick, Barton and Orleans, but am sure that others have thought of it as well) have solved chemical odors in chemical rooms by venting their chemical storage tanks into existing ventilation ductwork originally designed for gas chlorine. These existing ventilation systems usually have a blower that comes on when room lighting is turned on. A good work practice would be to turn on the light/blower a few minutes prior to entering the room. This idea is especially useful when dealing with sodium bisulfite.

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- Do not run your like pieces of equipment, especially duplex units, to have equal total hours of run time. This is an idea that I stole from West Lebanon operators at my first ww job and have used for the last 24 years. Contrary to what most equipment suppliers will tell you, alternating equipment with the goal of maintaining equal run hours, is in my opinion not a good idea. The simple reason for this is that if you have 2 units of the same blower, pump, motor etc. and you run them equal hours, when one of them wears out chances are that the second unit is also worn out. This leaves you with the dilemma of having one unit broken or under repair and your back up unit in similar

poor shape. An example of how this can work is to run your lead unit 6 days a week and your backup unit one day per week. When the lead unit is ready for rebuild, your backup unit will be in very good shape. Granted, there will be exceptions to this such as warrantee issues, when you may want to max out equipment run time or equipment that needs to be exercised daily. A good practice that can be used facility wide is to exercise these backup units while exercising your generator. This will keep your electrical demand charges down.

Yes, the last two items have appeared in this article before, but I

think they are worth another mention. If you have interesting ideas that you want to share, send them to me; we will include them in News Leaks in the future. I also encourage you to tour other facilities and share ideas; you will find that networking with other operators can be very beneficial. Several organizations can also help; VTWARN, GMWEA, VT Watershed Mgmt. and of course, VRWA! 



Contact Wayne Graham at **802-660-4988 ext. 319** or by email at wgraham@vtruralwater.org

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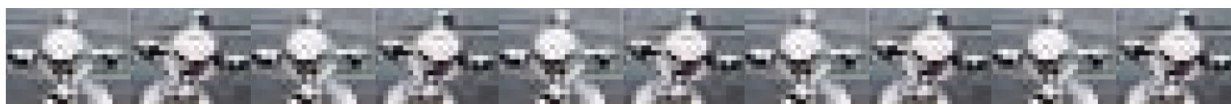
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Study: Overpumping Draws Down the World's Groundwater Reserves

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Submitted by Brent Desranleau, Water Systems Specialist

Groundwater depletion doubled between 1960 and 2000.

Much of the global groundwater pumped out of aquifers for household use and irrigation ends up in the world's oceans, depleting the aquifers faster than they can be replenished, a new study published in *Geophysical Research Letters* shows.

The study by hydrologists from Utrecht University and the Dutch research institute Deltares noted that the rate at which these critical groundwater aquifers are being sucked dry doubled between 1960 and 2000. The trend, which contributes to the rise of sea levels, at the same time threatens the fresh water supplies around the globe.

"Both the magnitude and the severity of the phenomenon are severe," said water expert Dr. Peter H. Gleick, president of the Pacific Institute for Studies in Development, Environment, and Society.

"Forty percent of our groundwater withdrawals are coming from unsustainable sources of water," Dr. Gleick added. "This water provides a lot of our food. And we're basically drawing down the bank account."

Worldwide, groundwater depletion rose from 126 cubic kilometers in 1960 to 283 cubic kilometers in 2000, according to the study. China, northern India, Iran, Mexico and the American West were particularly affected.

About one quarter of the rise in global sea levels can be attributed to this transfer of fresh water into the oceans, according to the study, as much of the groundwater used for irrigation is running off into ocean-bound rivers, or evaporating into the clouds and then raining into the ocean. Melting glaciers and polar ice caps contribute to another quarter of the sea level rise, with the rest due to the expansion of warming sea water.

The study follows up on a 2005 report in the *Hydrogeology Journal* that found groundwater depletion to be

a global problem, particularly in North Africa, the Middle East, South and Central Asia, North China, North America and Australia.

The studies point out that the easy access to pumped wells has led to a surge of groundwater use for municipal, industrial and agricultural purposes over the past 50 years. While the surge has created economic gains, it has led to declining groundwater levels, lower pump yields, increased pumping costs, deteriorating water quality and damaged aquatic ecosystems.



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“...success in developing countries is measured by the number of children who no longer get sick day after day, huge increases in school attendance, and the virtual elimination of diarrheal disease in some communities.”

*“Spotlight on Pure Water for the World”
continued from page 1*

The concrete filters used are made by in-country PWW employees from local materials.

Contaminants are reduced by pouring non-potable water through the filter to obtain water that is safe for drinking, food preparation, personal hygiene, and sanitation. The removal of harmful contaminants and pathogens takes place in the top two inches of the sand, below the water surface. A natural bio-layer of microorganisms present in the contaminated water forms at this interface, which actively consumes further organic material from the water that then filters through the sand layer. Many published technical reports attest to the effectiveness of intermittent slow sand filtration. Under optimal operating conditions, the biosand filter is capable of removing 97% of fecal coliform bacteria, 100% of giardia cysts,

99.98% of cryptosporidium oocysts, 100% of worms, 100% of parasites, and up to 90% of organic and inorganic chemicals.

While these may not be acceptable numbers in the US, success in developing countries is measured by the number of children who no longer get sick day after day, huge increases in school attendance, and the virtual elimination of diarrheal disease in some communities.

If you would like to get involved, PWW organizes annual trips to Haiti and Honduras where you can tour a filter factory, travel to rural project sites, and have the chance to gain hands-on experience with installing water filters and digging latrines. During March 2012, I joined the organization in Haiti and was able to see first-hand the positive impact on schoolchildren having access to clean water from the biosand filters installed in Port Au Prince, Carrefour, and Thomaseau. For additional information, please visit <http://purewaterfortheworld.org/>. ●

“Advancing Water and Wastewater Position Standing” continued from page 1

are often taken for granted. Many in this role don't seek out recognition for their efforts either. We do need to draw the next generation to this profession and stepping up the recognition of water sector careers is very important.

Titles project the skills, knowledge and expertise embedded in a given industry and we will advocate for this title to further promote the profession and raise appreciation levels for all those serving in the water sector. VRWA will provide ongoing updates on this initiative and will be working closely with other industry partners on this endeavor. To all of you serving in our industry VRWA appreciates all your efforts as, “Systems Operations Specialist.” ●

Exam Dates and Recertification Deadlines

Water System Operations Specialist Exams:

Dates: May 3 and November 1, 2013
Registration Deadlines: April 5 and October 4, 2013
Time: 9:00 AM – 12:00 PM (please arrive by 8:30am)

Montpelier area:

National Life Complex
Dewey Building
1 National Life Drive
Montpelier, VT

Rutland area:

Comfort Inn @ Trolley Square
19 Allen Street
Rutland, VT
(Allen Street Intersects with Route 7 South)

Recertification Deadlines:

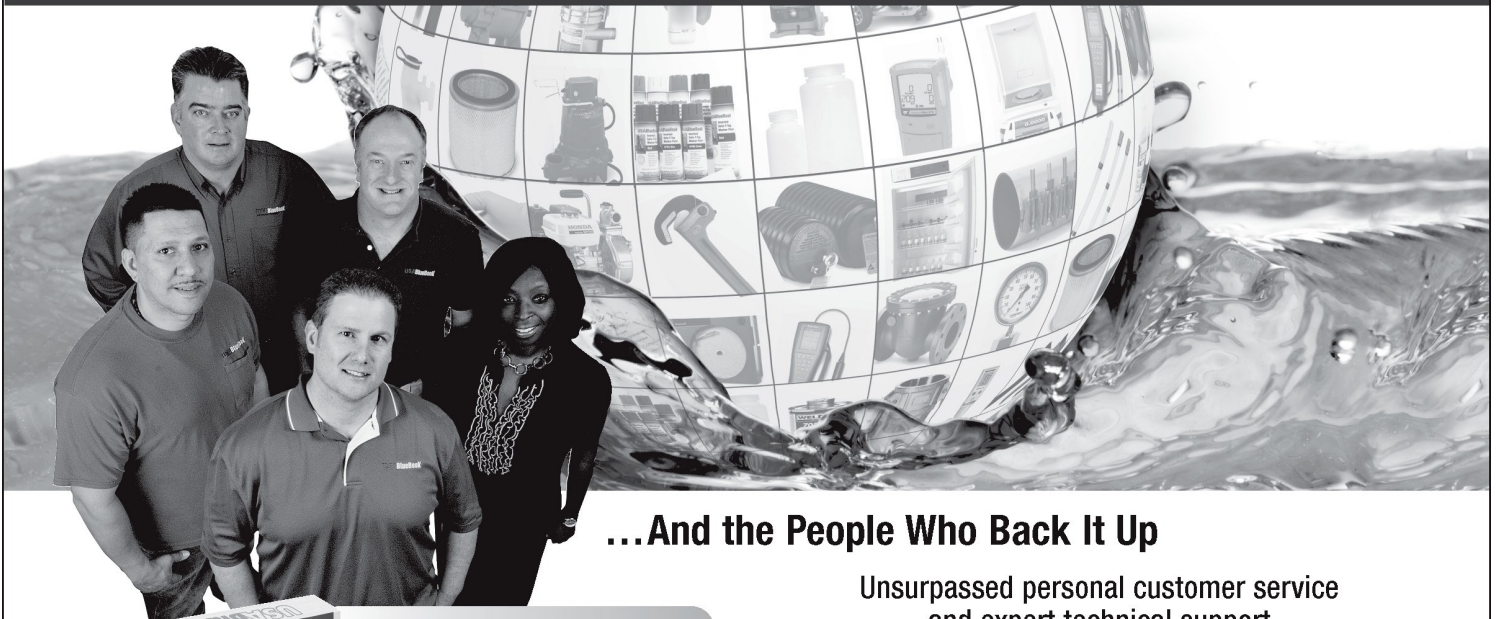
- Class 3 and Class D recertification due June 30, 2013
- Class 2 and Class 4 recertification due June 30, 2014



Liz Royer with two students at a school where PWW filters are installed

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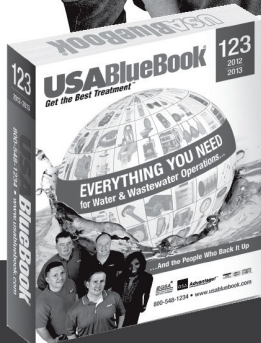


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