

**Not Enforcement, Reinforcement  
Caution! You're about to enter a  
No-Swim Zone! 😊**



## New Wastewater Operators Newsletter

Volume 2, Issue 7, September 2011

**Dear Ladies and Gentlemen:**

**Numbers:** My email victims' list is now at 233, an all-time high. Subscribers include wastewater operators, public works directors, civil engineers, Ecology employees and other interested parties. In the August issue, it was at 225.

**Why this newsletter?:** The main purpose of this voluntary exercise is to showcase cool ideas (and the people responsible) I see or hear about in the wastewater treatment industry, mostly in Eastern Washington. I've also got both eyes open for surplus items around the state, which could be of use to other wastewater facilities.

**Share with us:** Everyone reading this is part of the wastewater community in some way. If you have an idea or interesting project you'd like to share, please email me about it. If you've solved a problem at your facility, there are likely 10 others puzzling over it at theirs.

### **Issue Summary:**

Page 2: Equipment for sale or to give away: Some stuff available and updates.

Page 3: Job Openings: Got some links for you...

Page 4+ and Page 7+: Cool Ideas: We have two to share this month.

Page 12: Lab tips: BODs all day 😊 . Also updated **Control Charts** available from Lab Accreditation.

Page 12: Facebook group: nothing new here.

Page 12: Interesting links: A major document release from EPA, 457 pages' worth, and more!

Page 13: Something for the fishers among us.

Corrections: None

Page 14: Signature block: Includes publication date for the first time. Also a disclaimer.

Page 15+: Parting shots

## Equipment for sale or to give away:

**MAGNESIUM HYDROXIDE:** The (Mead, WA) Mountainside Middle School treatment plant has a full 55-gallon drum of magnesium hydroxide slurry (I don't know the concentration). It's been sitting there for over a year with a mixer running in it so it doesn't turn into concrete. They're willing to make a deal with somebody to take it off their hands. Magnesium hydroxide is a relatively safe alkalinity additive and pH adjusting compound used to enhance nitrification in activated sludge systems. It levels off at pH 9.0, unlike other products (soda ash, caustic soda [sodium hydroxide], lime, etc.), so you don't get spikes above 9 in your pH levels.

**FLOATING AERATORS:** A medium sized city has 4 floating aerators sitting on the ground. They were running fine when they removed them after their last upgrade. When I get the word from the operator that they're ready to surplus, I'll add more details. These are generally used to aerate lagoons. I have no idea about whether they are going to be free or have a price attached to them.

**FECAL COLIFORM INCUBATOR:** Remember that Public Works Director from May who needed a fecal coliform incubator, and got loaned one forever by another facility? Well, we found another one. This one is versatile enough to use as a BOD incubator (brand new), and he may trade the one loaned to him for it. The owner town of the second incubator doesn't have the room to use it, but the one loaned to the first town is just the right size.

**BUG FOOD:** The Stevens Pass Sewer District was kind enough to sell a 40-lb. bag of whey/soy mix to the Selkirk School District up near Metaline, WA. Thanks Tom, Steve and Scott! And, another small town operator donated 10 gallons of methanol to them. Thanks Scott (another Scott). If it were ethanol, we would have bottled it—sweet commercial moon shine—joking!

**This just in!** Mike Lambert emailed me 9-22-11 (and quickly followed up with a phone call), quote:

*Hi Darrel,*

*I was wondering if you could advertise 2 samplers for us in your next newsletter to us operators. They are both 1994 SIGMA 3000 Refrigerated Composite Samplers. [on the follow-up call, he said they have a longer name, which includes the designation Sigma Streamline 800SL—kind of sounds like a Mercedes Benz model number-Ed]. We just surplused these and want to give them away to someone who is in need of a sampler or two.*

*Thank you, Mike Lambert, WWTP III, City of Cheney, 119 Anderson Rd: Office: (509)498-9305*

*Email: [mlambert@cityofcheney.org](mailto:mlambert@cityofcheney.org)*

These are good samplers and are gonna go faster than hotcakes at a cowboy camp. Better hurry! 😊

The network works, I tell ya! 😊

## Job Openings:

The [City of Moses Lake, WA](#) has a Wastewater Treatment Lead Operator position open until filled. Go to [ci.moses-lake.wa.us](http://ci.moses-lake.wa.us) and click on their job opportunities button for details on this. The Lead Operator position pays a salary of \$3,689 (Entry) to \$4,611 (A Step).

[This job is still open according to their website, as of 9-18-2011.](#)

If anybody is struggling to find a new local government job, especially in wastewater treatment, here are a bunch of links for you:

<http://wastewaterjobs.com/Washington.html> Wastewater jobs in Washington State.

[http://www.ecy.wa.gov/programs/wq/wastewater/op\\_cert/training\\_ops/GRCCprogramsBrochure.pdf](http://www.ecy.wa.gov/programs/wq/wastewater/op_cert/training_ops/GRCCprogramsBrochure.pdf) Green River Community College programs brochure telling how much the job market is going to grow as we baby boomers retire. It also shows earnings potentials and their core classes in the brochure.

<http://www.erwow.org/helpwanted.html> ERWOW's help wanted page. It shows two positions open.

<http://www.simplyhired.com/a/jobs/list/q-wastewater+treatment+plant+operator/l-wa> Simply Hired website, showing 2 jobs open in Washington State currently.

<http://www.bcwaterjobs.com/allJobs.cfm> This site shows openings all over the country—quite a few for California at present.

<http://www.indeed.com/jobs?q=wastewater&l=Washington> Shows everything from maintenance personnel to engineering positions.

<http://www.careerjet.com/wastewater-jobs/washington-398.html> Another job broker showing multiple openings around the state.

Of course, there is some redundancy among the websites.

Chris Canaday, Public Works Director at Sprague, WA, says they found their maintenance person. Cool, Chris, hope they work out for you and the town.

## Cool Ideas of the Month, September 2011:

**Cool Idea 1:** Cool! We have two(!) cool ideas of the month this time to share.

First, we travel to just west of Airway Heights to the Fairchild Mobile Home Park. A better maintained small aerated lagoon I've not seen. Owner Mark Leenhouts does a great job of keeping the weeds down and maintaining the equipment. The layout and location (below):



This is a STEP (septic tank effluent pumping) system with aerated lagoon discharging to a small wetland.

### Problem:

The system was experiencing high fecal coliform counts awhile back, so Mark executed a solution. It seemed to him that the lagoon influent was short-circuiting (had shortened detention time).

### Solution:

I don't know if Mark came up with this idea on his own, or he had help. In any case, he paid for it with his company's money. It's called a curtain baffle. Quoting from Mark's email to me:

**"The curtain baffle is 60" wide, 150' long, it has a big chain that runs in a cuff along the bottom of the curtain to weight it on the bottom of the lagoon."**

This was the first time I'd seen a curtain baffle. I've since seen another at the Metaline Falls facility. It forces the lagoon influent to flow along the aerated side, make a corner,

## Cool Ideas of the Month, September 2011, cont:

### Cool Idea 1, cont.:

and finally discharge into the wetland. As far as I know, no more high fecal coliform counts.

I did an Internet search for these. Some vendors call them curtain baffles, others call them baffle curtains. They are “out there” in laborious detail.

A couple of shots of the curtain baffle (on next page):

The septic tank effluent comes into the lagoon at left of the shot below (next page), is aerated and mixed, and flows around the end of the curtain baffle at left. Sorry for the blurry shot.



## Cool Ideas of the Month, September 2011, cont.:

### Cool Idea 1, cont.:



This is an elegant solution to lagoon short-circuiting. It also makes aeration more efficient. I believe Mark said this 150-foot long unit cost him and his co-owner wife about \$4000.

A big dam **Saaaalute!** to Mark Leenhouts and company executing this great idea, and allowing me to publish it. Wish I'd thought of it! 😊

## Cool Ideas of the Month, September 2011, cont.:

### Cool Idea 2:

Now we roll north of Spokane to Mead. Here's a location shot of the Mead School District No. 354 operated facility located at the Mountainside Middle School.



This is a package plant, more specifically a Siemens Xpress Membrane Bioreactor (MBR) System, totally enclosed in a metal building, discharging to a drainfield. Contract Operator Randy Kueter (pronounced KEET'-er) and John Royer (district Director of Building and Grounds) have a tough time dealing with intermittent flows from the school. When school is out, they have to feed the biomass (currently using sodium acetate for food).

When school is in, they still have a food problem. Randy told me they've found that middle school students don't like to go number 2 at school, a fact I found hilarious. Not so funny to Randy and John. But that's not the only problem.

#### Problem:

Junior may not do number 2 at school, but he has no problem flushing his skivvies. Besides that (correct me if I'm wrong, Randy), they don't use toilet tissue, opting for alcohol swabs which don't deteriorate like toilet tissue. Having no mechanical screening in their primary lift station, they were having to pull the pump (or pumps, I forget which) frequently to un-jam them.

Knock knock! Who's there? Terrify! Terrify who? Terrify tissue? (This gets old after the first date, but I occasionally amuse my wife with it.) 😊

## Cool Idea of the Month, September 2011, cont.:

### Cool Idea 2 cont.:

#### Solution:

Randy and John were at a loss to prevent ragging of the pumps, so they asked their plumber, Steve Smith if he could come up with something magical to help them out. Hey Steve, quoting the Grass Roots 1966 song title “Where Were You When I Needed You?” [YouTube link to the song for the very young among us 😊 <http://www.youtube.com/watch?v=AmQsCRFycaQ> ]

Drum roll, please! Yes, it’s a screen cylinder with a fiberglass bottom cable-tied on, and placed under and around the pump. The bottom has holes drilled in it so it doesn’t float. Here’s a couple of shots of it in the influent wet well. Below-at low-to-mid tide:



**Cool Idea of the Month, September 2011, cont.:**

**Cool Idea 2 cont.:**

**Below-at mid-to-high tide: Notice the nylon securing rope.**



**The juice in the wet well is brown because I believe RAS is returned there—gets the ball rolling for denitrification.**

**Randy says the screen self-cleans for the most part as the liquid level rises and falls. Debris falls to the bottom of the wet well, which they clean by hand (which they were doing, anyway). No more skivvies jammed in the pump.**

## Cool Idea of the Month, September 2011, cont.:

### Cool Idea 2 cont.:

They have a spare screen on the ground, so here are a couple of photos to give you a better idea of how it's constructed. If those are 1-foot sections of screen, my eyes tell me the screen tube is about 5 feet long, and about 2 feet in diameter. Other facilities may be able to use this idea,



modified for their wet well and pump configuration. I visualize half-round configurations for some plants, maybe with a hinged bottom and sides to allow easy removal of the unit.

## Cool Idea of the Month, September 2011, cont.:

### Cool Idea 2 cont.:

A closer shot of the spare screen. Sometimes, simpler is better. But it may not suffice for the



biosolids rule about screening prior to July 2012. You'll need to check on that. And it still requires hand removal of debris. But in this case, the pump protection is priceless! You'll have to ask Steve where he got the materials for this.

A big dam **Saaaalute!** to the Mead School District, Randy Kueter, John Royer and especially to Steve Smith, their very clever plumber. Excellent idea!

## Lab Tips:

If you want to spend all day in the lab doing BODs, have I got some videos for you!

[http://www.waterandwastewater.com/videos/search\\_result.php?search\\_id=BOD5](http://www.waterandwastewater.com/videos/search_result.php?search_id=BOD5)

These are courtesy of WaterandWastewater.com, and Interlab Supplies Ltd. These are very good, but consult Standard Methods (rules change over time). Step by step procedures.

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I asked the Lab Accreditation folks if they have **Control Charts** in Excel to replace my ancient Lotus 1-2-3 versions, and hallelujah! They do. They sent them (templates, instructions and examples) to me via email. Thanks, Dennis! If you like, Dear Victims, I'll send them to you.

## FaceBook Group:

The Friends of New Wastewater Operators Newsletters group is located here:

<http://www.facebook.com/groups/fonwon/>

The crickets there are deafening—but I still think this could be a good networking venue, if I can figure out how to use it better. I've posted most of the links from these newsletters there, so far.

## Interesting Links:

If you run a lagoon system (or as they call them, wastewater treatment pond system), or if you're studying for a certification exam, you owe yourself a look at this document from USEPA.

It's called "Principles of Design and Operations of Wastewater Treatment Pond Systems for Plant Operators, Engineers, and Managers". Link here (it's big, it's colorful and very informative):

<http://www.epa.gov/nrmrl/pubs/600r11088/600r11088.pdf>

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Speaking of lagoons, I have in my possession a PowerPoint presentation from EPA Region 9 that's essentially a check sheet for observing lagoons and maintaining them. **Just ask and I'll send.** I've converted it to a .pdf file, so you can read or print it. Good resource.

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Lynn Lawson of Brewster sent me this link; it seems that music makes the bugs more efficient—if it's Mozart! Thanks, Lynn!

<http://www.foxnews.com/scitech/2011/09/21/mozart-makes-sewage-microbes-more-productive-engineer-says/>

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## **No Catch Limits:**

Hey, my fellow freshwater fisher friends! Fish and Wildlife are going to poison 3 lakes, but before they do, they're giving us an opportunity take as many fish as we want. Thanks to Glenn Davis in Pomeroy (the Kingfisher, himself), for giving me the heads-up on this event. Here's the article:

### **No catch limits at three Okanogan County lakes**

Posted by Mark Yuasa

**Three lakes in Okanogan County are now a free for all on fish with no catch limits.**

**State Fish and Wildlife says licensed anglers can catch and keep as many game fish as they want at Alta Lake, Fish Lake and Schallow Pond, which are slated for rehab next month to treat them with rotenone to eradicate undesirable fish species.**

**"There's no reason why anglers can't catch as many trout, perch and other gamefish as they can find prior to the lake treatments," Jeff Korth, a state Fish and Wildlife fish manager in Ephrata said in a news release. "There are still some nice fish in those waters, along with the bullheads and goldfish."**

**The no-limits fishing opportunity will run through Sept. 30 on Alta Lake, and through Oct. 22 on Fish Lake and Schallow Pond.**

**All three lakes will close to fishing before the treatments begin. Anglers will be prohibited from gathering fish from those waters during and after rehabilitations.**

I'm going to try Fish Lake on Oct. 1 weekend to see what I can catch. 😊 Could be crowded. Bought my Discover Pass for \$36 (\$1 for the private vendor) a few weeks ago, good for a year from the purchase date. Quoting from F&W weekender site:

**Discover Pass:** A Discover Pass is now generally required for vehicle access to state parks, campgrounds, boat launches and wildlife areas – although some exceptions apply. An annual pass costs \$35 and a one-day pass available for \$11.50 when purchased online, by phone, or from retail license vendors. However, holders of most annual fishing and hunting licenses do not need the new pass to use WDFW lands and water-access sites. Some lands managed by the state Department of Natural Resources (DNR) are also exempt. For more information, see WDFW's website at <http://wdfw.wa.gov/licensing/discoverpass/>.

**You all help to make the waters wonderful for fish; you might as well reap a reward for your efforts, and relax at the same time. Good deal!**

Hey! Keep up the good work! See you next time.

All the best to you and yours,

Darrel Fleischman

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P.S. If you want off this list for any reason, just let me know. I'm still missing some of the "old" members, so if you know of anyone who'd like to get back on this wagon, tell 'em to email me.

P.P.S. All previous newsletter issues are available by email.

P.P.P.S. Feedback is welcome, both positive 😊 and negative 😞, so let me have it! You and your opinions are appreciated.

P.P.P.P.S. To my horror, the navigation buttons and other content on my web site have disappeared, so if you click on the white raven on page 1, you'll get the home page, but can't navigate from there. However, new subscribers or others who haven't seen my Wastewater page yet can click this link to get there if they want to:

<http://www.whiteravendata.com/Wastewater.htm>

Hopefully, I'll have the navigation buttons fixed by next newsletter.

And here's a disclaimer. Just about everybody receiving this newsletter knows where I work, but I should tell you this newsletter is not endorsed by, contributed to, or reviewed by the Washington State Department of Ecology. It's all done on my own time, my home computer, and using my personal email address and camera. So there!

See some scenic photos and a link to a funny on the next two pages. Enjoy!

## Parting Shots:

Lily pads on Frater Lake between Tiger and Colville, Hwy 20,, digital, 8-31-2011.



The sky was just right, and it was starting to shower.

## Parting Shots, cont.:

Sunset and Sage between Grand Coulee and Leahy Junction, digital. 9-13-2011 (on my way home from Stehekin). Go to 200%+ on the document size to see it better.



Same location, looking east, Moonrise Over Stubble Field, digital. Added color saturation.



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Wal-Mart's new theme song (video link): <http://www.youtube.com/v/6RzcvFLPg1A?version=3%22%3E%3Cparam>