

# Northern Flows



Alaska's Drinking Water Program Newsletter  
 Issue 24 • Winter 2005

## Important Information



### For Water System Operators and Owners

## Northern Flows

### Drinking Water Program Directory

#### ANCHORAGE OFFICE STATEWIDE FUNCTIONS

James Weise, DGS	Program Manager	269-7647
Brad Ault	Comp./Tech. Svcs. Manager	269-3068
Vanessa Wike, P.E.	Statewide DW Engineer	269-7696
Kathaleen Kastens	Project Coordinator	269-7639
Margaret Hansen	Administrative Clerk	269-7656
Vivian Terrell	Administrative Clerk	269-7581
Vacant	C/E Coordinator	269-xxxx
Jeanine Oakland	Environmental Spec.	269-2007
Karen Leis	Regulations Specialist	269-3082
Gloria Collins	Regulations Specialist	269-3075
Maria Ridgway	Analyst Programmer	269-7625
Shannon DeWandel	PWS Security Specialist	269-8924

#### ANCHORAGE DRINKING WATER PROTECTION

Suzan Hill	Program Coordinator	269-7521
Adam Pigg	DW Protection	269-0292
Chris Miller	DW Protection	269-7549

#### ANCHORAGE FIELD OFFICE

Heather Newman	Program Coordinator	269-7619
Allan Nakanishi, P.E.	Env. Engineer	269-7516
Sarah Rygh	Env. Engineer Assist.	269-3076
David Edmunds	DW Compliance	269-7653
Jamie Stazel	DW Compliance	269-7624
Doug Zellmer	DW Compliance	269-7623
Kathleen Free	Administrative Clerk	269-7618
Leticia Tadina	Environmental Tech.	269-7517
Vacant	Administrative Clerk	269-7594

#### WASILLA FIELD OFFICE

Lynn Lowman	Program Coordinator	376-1861
Tee Little	DW Compliance	376-1860
Kellie Alvstad	Environmental Tech.	376-1859
Vacant	Env. Engineer	376-1862

#### JUNEAU FIELD OFFICE

David Khan, P.E.	Env. Engineer	465-5317
Carrie McMullen	DW Compliance	465-5333
Vacant	Environmental Tech.	465-5325

#### SOLDOTNA FIELD OFFICE

Susan Bulkow	Program Coordinator	262-5210
David Litchfield	DW Compliance	x227
Scott Fogue, P.E.	Env. Engineer	x224
Eric Burg	Environmental Tech.	x243

#### FAIRBANKS FIELD OFFICE

Cindy Christian	Field Operations Manager	451-2138
Vacant	Program Coordinator	451-xxxx
Lee Johnson, P.E.	Env. Engineer	451-2179
Linda Grantham	DW Compliance	451-2137
Marci Irwin	DW Compliance	451-2168
Johnny Mendez	Env. Engineer Assist.	451-5193
Vacant	Environmental Tech.	451-2170
Clare deHernandez	Administrative Clerk	451-2108

### Message from the Manager

Happy New Year!! Time sure fly's, it is 2006. The holidays, Thanksgiving, Christmas, and New Years were over in a flash. I hope you had fun and some good times to remember and share with family and friends. Speaking of good times, fun, and sharing with friends, if you are a public water system (PWS) owner or operator, did you complete your end-of-year monitoring, get your overdue sanitary survey completed, and are you ready for your 2006 monitoring requirements? If not, it is never too late to be proactive, get it done, and start the year off on the "right track".

I have some great news to share with PWS owners and operators, and the Alaska drinking water community in general. The long overdue and awaited regulation package that included the Radionuclides Rule, Variances and Exemptions Rule, Arsenic Rule, Filter Backwash and Recycling Rule, updated Analytical Methods, new sanitary survey

inspector requirements, new fees, and some fee increases, were filed by the Lt. Governor's Office on December 12, 2005. These regulations become effective January 11, 2006. One of the most significant public health and compliance issues associated with this new regulation package is the new arsenic maximum contaminant level (MCL) of 0.010 mg/L (10.0 parts per billion (ppb)) for Class A PWS (Community Water Systems and Nontransient Noncommunity Water Systems). The previous arsenic MCL for a PWS was 0.050 mg/L (50 ppb). Based upon recent and historic monitoring data for arsenic in drinking water, it is interpreted that this new Arsenic Rule MCL will impact between 70-100 Alaska water systems. I truly hope the owners and operators of the PWS that are impacted by the new arsenic MCL took the opportunity this past September 13-14, 2005, to participate in the Arsenic Treatment Technologies workshop presented in Anchorage. This joint ADEC/EPA training workshop was a unique opportunity to learn about new treatment technologies and the compliance and enforcement requirements and options for the new Arsenic Rule.

Continuing with the public health protection theme and using the double barrier approach concept of filtration and disinfection for those systems using a surface water source or ground water under the direct influence of surface water (GWUDISW), the State of Alaska is preparing to adopt by reference the federal Long Term 1 Enhanced

Surface Water Treatment Rule (LT1 ESWTR). The proposed regulation package that included this Rule was public noticed for a 30 day public comment period on December 22, 2005. This proposed regulation package will also include a master meter requirement for water systems and a requirement for ADEC-certified labs to use the electronic data reporting system (EDRS) to submit PWS compliance monitoring directly to the state.

A significant Drinking Water Program accomplishment completed in calendar year 2005, was the development of the Alaska enhanced sanitary survey (ESS) form. The Alaska ESS form, both electronic and hard copy versions, will become the statewide accepted form on April 1, 2006. This form is a modified and condensed version of EPA's ESS form. Sanitary survey training workshops scheduled for 2006 will focus on the use of the new form and the new regulatory requirements for sanitary survey inspectors. Currently scheduled workshop locations and dates for calendar year 2006 are the following: Kenai, February 22-23; Anchorage, March 22-23; MatSu area, March 13-14; Fairbanks, March 3-4; and Juneau, March 8-9, 2006. These classes will be taught by Brad Ault and assisted by Vanessa Wike. For more information about these new sanitary survey inspector training workshops, please contact Brad Ault at (907) 269- 3068.

Let's have a great year, continue doing what we do best, and have fun doing it.

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Staff Profile: Lee Johnson, Environmental Engineer, Fairbanks by Cindy Christian

Lee Johnson is an Environmental Engineer I for the Drinking Water (DW) Program in the Fairbanks Office. He is the lead engineer in the Fairbanks Office and is responsible for a wide range of activities, including coordinating all engineering activities, evaluating engineering plans for public water systems (PWS), reviewing separation distance waiver requests, coordinating with compliance and enforcement staff on enforcement actions, performing groundwater under the direct influence of surface water determinations, sanitary survey inspections and Comprehensive Performance Evaluations (CPE) for PWS in the Northern part of the state. Lee works extensively with system owners and operators to make sure that they remain in compliance with the Drinking Water Regulations. He is very active in providing technical assistance to the PWS and other engineers in his area. Lee is also the DW Program technical expert on the EPA Surface Water Treatment Rules.

Lee graduated from the University of Alaska Fairbanks (UAF) with a degree in Civil Engineering in 1986. He retains a Professional Engineer (P.E.) license in Civil Engineering from the

State of Alaska. Lee first came to Alaska in the 1970's when his father worked for Alaska Airlines. He spent most summers here, and moved to Fairbanks permanently to finish high school and attend college. While Lee was at UAF, he spent four summers doing research work for the Department of Transportation. He helped to collect data for road projects throughout the Interior. The data collected was used to determine pavement strength and condition and set load limits for roads in the Interior. After graduation, Lee accepted a position at Alaska Test Labs. He worked doing soils compaction and concrete strength tests for a US Navy radar site on Amchitka Island in the Aleutians. Lee has also worked for Osborne Construction as a quality control inspector and at the Fairbanks North Star Borough as a transportation planner. Lee came to work for the ADEC Drinking Water Program in 1991 as a compliance engineer focusing mainly on the Surface Water Treatment Rule.

Lee has many interests outside of ADEC. He likes to spend time gardening in the summer and always produces a crop of zucchinis and cucumbers, which his co-workers



really appreciate! He and his girlfriend, Debby, like to spend their leisure time exploring the beauties of Alaska by hiking, fishing, riding snowmachines and spending time at their remote cabin near the Matanuska Glacier in the Chugach Mountains. They also like to travel and recently spent a few months in various countries in South America. Lee has also been very actively involved in trails planning throughout the State of Alaska by serving on both local and statewide advisory boards for many years. Lee is a very important member of the ADEC team, working to ensure the protection of public health throughout the state.

The Importance of Wellhead Protection by Chris Miller

Now let's join Greenville's town hall meeting now in session... "Up next, the operator of Greenville's Public Water System. Mr. Waters will present to us the status of Greenville's drinking water."

*Mr. Waters:* "Thank you...I'm proud to say that our drinking water quality in Greenville meets or exceeds all standards established by the State of Alaska and the EPA. Does anyone have any questions?"

*Mr. Consumer:* "Yes ... I understand that there are numerous septic systems located close to our well and nitrate levels have been increasing over the years. What actions are being taken to assure that our drinking water remains safe? Also, as we all know,

**Question:** A Solid that is less than 1 micron is called a \_\_\_\_\_.

- A) Total Solid
- B) Turbidity
- C) Colloidal
- D) Suspended Solid
- E) Bacteria

Operator On-Line Training Program by Ken Smit

The operator certification program recently unveiled its online training program. Operators of small untreated and small treated systems can now receive valuable training via the Internet.

Small systems serve less than 500 people and less than 100 service connections. A small untreated system is one where no chemicals are added to the water. A small treated system is one where one chemical is added to the water. Simple forms of passive treated, such as softening or cartridge filtration, may be used at small untreated and small treated systems.

Operators of Class A water systems must be certified. Additionally, operators of Class B surface water systems must be certified. Passing a

written exam is required for certification. Taking an online course is an excellent way to prepare or qualify for a certification exam.

There are two courses available, one for small untreated system operators and one for small treated system operators.

Course 1: The small untreated course is divided into six chapters that cover the basics of ground water, wells, operations and maintenance, passive forms of treatment, regulations, and math. The course costs \$30 and is worth 0.5 continuing education units (CEUs).

Course 2: The small treated course is divided into seven chapters that cover the basics of ground water, surface

water, operations and maintenance, passive forms of treatment, chemical addition, disinfection, regulations, and math. The course costs \$35 and is worth 0.7 CEUs.

Students move through both courses similar to watching a slide show. There's an abundance of written instruction, graphics, photographs, and interactive exercises. There's a test at the end of each chapter. Students must achieve a score of 85 percent on all tests in order to pass a course.

To learn more about the online courses for water operators, visit our online training site at <http://www.dec.state.ak.us/fco/opcert/system1.html>.

**Dear Doctor Drip:**  
**What is a violation of a drinking water standard?**

Public Water Systems (PWS) are required to monitor and test their water for various contaminants before the water is served to the public. These tests are used to determine if the water needs to be treated and which kind of treatment will work best to remove any contaminants found. Tests are also used to determine the effectiveness of the treatment process. If a PWS provides water to consumers that contains contaminants that exceeds the standards set by the state and federal government, or if the PWS fails to monitor for a contaminant, the system is violating drinking water regulations, and is subject enforcement action. Enforcement actions could include Notices of Violation and Administrative Penalties.

When a PWS violates a drinking water regulation, it must notify its consumers and provide information about the violations and special instructions on how consumers should respond. This is called public notification and is a regulatory requirement. In cases where the water presents an immediate health threat, such as when people need to boil water before drinking it, the PWS must use television, radio and the newspapers to get the word out as quickly as possible. Other public notices may be sent by mail, or delivered with the water bill. In addition, the annual Consumer Confidence Report (CCR) must include a summary of all of the violations that occurred during the previous year. If you have specific questions about violations, please contact your local Drinking Water Program office.

*This is a new area of our newsletter, we hope you will use and enjoy it. Doctor Drip encourages you to send in any questions you have and he will try and get the answers back to you in the next newsletter. You can submit your questions in writing to: The Drinking Water Program, 555 Cordova Street, Anchorage, Alaska 99501; or email them to the editor of Northern Flows: [kathaleen\\_kastens@DEC.state.ak.us](mailto:kathaleen_kastens@DEC.state.ak.us) or call in at (907) 269-7639. We look forward to hearing from you.*

What's Wrong with this Picture *by Scott Forgue*

**ANSWER:** This picture depicts several public health risks. The water line is not adequately protected where it comes out of the ground, the hose connection lacks an anti-siphon backflow prevention device and a garden hose is being used to deliver drinking water.

The waterline should be better protected by the post to which it is loosely attached. Better protection may be provided by bringing the waterline out of the ground in line with the post and securely affixing the waterline to the post.

The absence of an anti-siphon backflow prevention device on the waterline constitutes a potential "cross-connection." A loss of pressure in the water system while the hose faucet is open has the potential to draw contaminants into the system through the hose lying on the ground.

The garden hose is not approved for contact with potable water. Many garden hoses are made of polyvinyl chloride, which contains lead used as a stabilizer. The lead and other chemicals may leach from the hose and contaminate the water.

Please forward any photographs you would like to have featured in future articles to Scott Forgue at [Scott\\_Forgue@dec.state.ak.us](mailto:Scott_Forgue@dec.state.ak.us). Let me know if you would like credit.

Emergency Response Planning *by Brad Ault*

It starts off like any other evening, the children have completed their homework and the dinner dishes have been put away. When all of a sudden, the lights go out. No worries, right? You have prepared. The flashlight and radio have fresh batteries, there is wood stacked by the stove and you might even be so fortunate as to have a small generator to keep your household appliances running. Like most Alaskans, you prepare for just these kinds of emergencies.

But how would your community fare if you should lose your ability to produce clean, safe drinking water? Living in Alaska's unpredictable environment, it really is not a matter of if it happens, but rather when it happens. There are many things that can go wrong and create a drinking water emergency. Weather, earthquakes, volcanoes, massive

power outages and other calamities have all occurred within our fairly recent memories. And recent attention has come to focus on one of the most common, yet most unprepared for threats, i.e. man-made. Yes, no one likes to admit that there are those living right in our communities that could or would cause us harm, yet it is true. An act of malicious vandalism not only could compromise the communities' ability to produce water, but could contaminate our water at its source, producing illness and possibly even death.

There are steps every community can take to better prepare themselves for emergencies. In the end, it really doesn't matter what caused the loss, whether it was a natural or man-made threat that materialized, the result is the same. You could be faced with being out of drinking water for several

days, if not weeks, depending on the circumstances. The Alaska Department of Environmental Conservation (ADEC) Drinking Water (DW) program is prepared to help your community develop Emergency Response Plans at no cost to you. We are pleased to introduce Shannon DeWandel, an Environmental Program Specialist who specializes in Public Water System Security. Shannon is both willing and able to travel to your community and work with your public works personnel, health officials and civic leaders to develop a working and efficient Emergency Response Plan. You can contact Shannon by calling her at (907) 269-8924 or email her at [shannon\\_dewqnel@dec.state.ak.us](mailto:shannon_dewqnel@dec.state.ak.us). ADEC encourages your community to be proactive in these issues. Don't wait until the lights go out before you realize you didn't replace your flashlight batteries.

Check out the new ERP Toolkit on the Website @ <http://www.dec.state.ak.us/eh/dw/security/ToolKit.htm>

The Importance of Wellhead Protection Cont'd. *by Chris Miller*

*Greenville is growing quickly. What actions are being taken to assure we continue to have safe drinking water?"*

*Mr. Waters: "Well....um, Good question. I can assure you ....."*

Sooner or later every owner or operator of a public water system will get a similar question. Do you have an answer prepared? Less than 1% of Alaska's Public Drinking Water Systems have developed and implemented a formal Wellhead Protection Plan. Chances are Mr. Waters didn't have much to say. We recognize that operators alone are often unable to foster the interest needed to overcome the many political and fiscal barriers preventing the implementation of a formal Wellhead Protection Management Plan. However, when it comes down to it, the consumer will not want to hear about the barriers preventing the establishment of a Wellhead Protection Management Plan. They'll want to know why the water is no longer safe to drink.

Over the last two years, the Drinking Water Protection component of the Drinking Water Program has put on workshops in King Salmon, Nome, Kenai, Valdez, Glennallen and Anchorage. These workshops emphasized the importance of developing Wellhead Protection Plans and reviewed the Wellhead Protection Management CD ROM created for Alaskan communities. The CD ROM offers a template for communities to develop a Wellhead Protection Plan. Unfortunately, interest and attendance in these workshops has been light.

Although the development and implementation of a Wellhead Protection Management Plan is out of the hand of most operators, you can help spark interest in the community by making them aware of the dangers of complacency. If you've been unable to attend the Wellhead Protection Workshops, here are a few benefits of developing and implementing a Wellhead Protection Management Plan to bring to your communities' attention:

- It assures a positive climate for economic growth by avoiding the adverse economic impacts associated with a contaminated water supply (i.e., loss of jobs, a drop in real estate value).
- It allows community members to make their own decisions and tailor the plan to meet the communities' specific circumstances.
- It may allow your system to obtain waivers from certain monitoring requirements.
- When the new Groundwater Rule is implemented, all hydrogeologically sensitive drinking water sources will be required to monitor monthly for fecal indicators. Systems implementing Wellhead Protection Management Plans may be eligible for waivers from the required monitoring.

➤ And finally....It's it may be required in the future.

Protection strategies to consider in your Wellhead Protection Plan:

- Conduct routine groundwater monitoring.
- Conduct public education campaigns.
- Work with owners of potential sources of contamination to ensure proper material handling and disposal.
- Purchase land around the well.
- Adopt zoning or subdivision ordinances.
- Enact design and operation standards.
- Enact a private well abandonment ordinance.

It is important to remember that each Wellhead Protection Management Plan will be unique. There is no right or wrong plan...what's right is what your community feels will adequately protect your water source.

In the box below is a list of websites offering educational information on wellhead protection. Educate yourself and remember you may be in Mr. Waters shoes someday. If you haven't received the Wellhead Protection CD Rom and are interested, contact Drinking Water Protection at (907) 269-7549 or email me at [chris\\_miller@dec.state.ak.us](mailto:chris_miller@dec.state.ak.us)

- <http://www.safedrinkwater.com/>
- <http://www.epa.gov/safewater/protect/features.html>
- <http://www.epa.gov/safewater/protect/protect.html>
- <http://www.epa.gov/safewater/protect/swap.html>
- <http://www.dec.state.ak.us/eh/dw/index.htm>
- [http://www.epa.gov/safewater/protect/pdfs/guide\\_swp\\_swp\\_funding\\_matrix.pdf](http://www.epa.gov/safewater/protect/pdfs/guide_swp_swp_funding_matrix.pdf)
- <http://www.tpl.org/>
- <http://www.epa.gov/water/waternews/waternews.html>
- <http://www.uswaternews.com/archives/>
- <http://wellowner.org/>
- [http://www.awwa.org/Communications/mainstream/2003/July/Lead04\\_WaterseriesNo1.cfm](http://www.awwa.org/Communications/mainstream/2003/July/Lead04_WaterseriesNo1.cfm)

Get to know the Fairbanks Staff

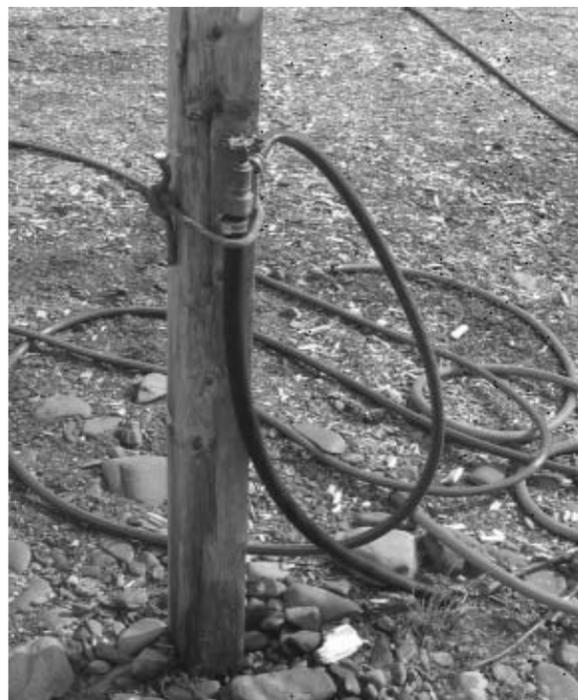
The photo to the right is the Drinking Water Program Staff in of the Fairbanks office. Starting at the far left is Johnny Mendez, an Environmental Engineer Associate who has been with the program for a little over one year. Next is Clare deHernandez, Clare has been with the program less than one month and is our newest member, Clare begins her work in our program as an Administrative Clerk. Next to Clare is Marci Irwin, Marci is an Environmental Program Specialist II who works with the Non Transient Non Community Water systems in the Northern Area; to the right is Cindy Christian, the Environmental Program Manager overseeing the Compliance and Enforcement section of the DW Program, to the right of Cindy is Linda Grantham, Linda is an Environmental Program Specialist III and has been with the program for 9 years. Lee Johnson is on the furthest right and has also been with our program for 9 years. Lee has been highlighted in our staff profile this newsletter, take a look at the in-depth interview with Lee.



What's Wrong With This Picture?

by Scott Forgue

The photograph below was taken during a routine visit to a public water system serving a campground. "What's wrong with this picture?" (Answer on page \_.)



Regulations Corner by Karen Leis

Finally, the Arsenic, Radionuclides, Filter Backwash Recycling, and Variance and Exemption Rules are adopted by reference and will be effective in Alaska's drinking water regulations on January 11, 2006. On that date you will be able to download the Chapter 80 Drinking Water Regulations from our website: <http://www.dec.state.ak.us/regulation/s/pdfs/80mas.pdf>. The version that will be posted on January 11 will be up-to-date, including these rules and the finalized version of the regulations that went out to public comment on February 5, 2006 (DW 2004-2). For all of you who commented, I will be sending you a summary of the comments within the month. If anyone would like an electronic version of the Code of Federal Regulations (CFRs), dated July 1, 2005, which has the complete text of the bits we have adopted by reference, please email me at the address at the end of this column. I am happy to send them to you by email, and add your name and address to this free subscription list.

Next, on December 19, 2005, we went out for public comment on the next proposed regulations package, DW 2005-1. This package contains: an adoption-by-reference of the federal Long Term 1 Enhanced Surface Water Treatment Rule; a requirement that all community water systems(CWSs), and non-transient non-community water system (NTNCWSs) install a master meter by a date three years after the

regulations become effective for CWS, and five years after the regulations become effective for NTNCWS; a requirement that all sanitary survey inspectors file their reports electronically 90 days after these regulations become effective; that all state certified laboratories file their data electronically 30 days after these regulations are effective; some references are being updated; some new definitions are being added; and some small changes that make the regulations clearer and more consistent are being made. To read more, go to: <http://www.dec.state.ak.us/regulation/s/index.htm>. Remember to get your comments in by the due date!

*"Training on LT2 and Stage 2, open to public water systems, service providers, consultants"*

The big national Drinking Water news on December 15, 2005 was that the two new rules we have been waiting for, Long Term 2 Enhanced Surface Water Treatment and Stage 2 Disinfectants and Disinfection By-products Rules were signed. You can look for the publication of these two new rules in the Federal Register in early January 2006, and then they will become effective 60 days after that. For more information you can go to: <http://www.epa.gov/safewater/disinfection/>

In 2006 we will likely bring three more regulations packages out for public comment. First, we hope to

tidy up Article 3 of Chapter 80 and make sure it is consistent with all of the rest of the Chapter and the CFRs. Secondly, we will be changing the Class A, B, and C language to reflect the federal naming conventions for public water systems(PWS), and clarifying the roles of owners and operators of PWS. Finally, we may jump right into getting the new LT2 and Stage 2 Rules adopted. We all need to be proactive in identifying what is on the horizon for our drinking water future.

In order to stay ahead of all this new regulatory change, we will be updating you through this column and the Message from the Manager on information sources and training.

On January 17, 2006 (repeating on January 24, 2006), there will be a four hour webcast on LT2 and Stage 2, open to

PWS, service providers, consultants and regulators. On January 19, 2006 (repeating January 26, 2006) there will be a three hour webcast discussing the Information Processing and Management Center (IPMC), and the Stage 2 and LT2 databases (IDSE). This training is also open to PWS, service providers, consultants and regulators. We don't have times and places yet, but email me if you want to be kept in the loop on this training.

Thanks for all your comments and I wish you happy holidays and a prosperous (and well-regulated!) new year.

Answer: C) Colloidal