Oregon Drinking Water News
PIPELINE
Drinking Water Program, Oregon Health Division

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OREGON'S 1998 SAFE DRINKING WATER REVOLVING LOAN FUND CALL FOR YOUR DRINKING WATER IMPROVEMENT PROJECTS - WORKSHOPS OFFERED

Dave M. Phelps

Please complete and return the enclosed ***1998 Letter of Interest*** to Oregon Economic Development Department by April 6, 1998.

It is time to prepare Oregon's 1998 Safe Drinking Water Revolving Loan Fund grant request to EPA for an estimated $11.0 million. These funds will be used in Oregon to make low interest loans to drinking water systems to finance planning, design and construction improvements needed to achieve or maintain compliance with the Safe Drinking Water Act.

Oregon's application to EPA must include a plan that shows how Oregon intends to use the $11.0 million. **This Intended Use Plan must list your drinking water projects and their estimated costs in order to get access to the federal funds.** To create Oregon's Intended Use Plan, we need you to tell us about your drinking water system needs. To collect information about your project, we have enclosed a 2 page ***Letter of Interest.***

Workshops! Need help completing your ***Letter of Interest?*** Four workshops are scheduled in early March, 1998, as follows:

- March 5 — 8:30 am to noon — Eugene at the Valley River Inn
- March 10 — 8:30 am to noon — Pendleton in Little Vert Auditorium
- March 12 — 1:30 to 5:00 pm — Medford in the Justice Center
- March 13 — 1:30 to 5:00 pm — Portland at ODOT conference rm., NW Flanders

(If you wish to register for a workshop and need location details, call Diane Weis, Drinking Water Program at (503) 731-4010.)

continued on page 2

1996 ANNUAL COMPLIANCE REPORT ON OREGON PUBLIC DRINKING WATER SYSTEMS

Under the 1996 Safe Drinking Water Act, each state is required to prepare annual reports on violations of national primary drinking water regulations by public water systems in the state. States are required to provide the annual reports to the USEPA, publish and distribute summary reports, and make the full reports available to the public. In addition to satisfying the legal requirement under the Safe Drinking Water Act, the annual compliance report provides an important opportunity to review the status of public drinking water safety in our state. This report presents compliance data on Oregon public water systems for the calendar year 1996. 1997 compliance data will be presented in a similar report in June, 1998.

Drinking Water Standards

A brief overview of the public drinking water regulatory program is useful. In Oregon, public drinking water systems are subject to the Oregon Drinking Water Quality Act (ORS 448 - Water Systems) and the federal Safe Drinking Water Act. The primary purpose of the Oregon Act is to "assure all Oregonians safe drinking water." According to the Oregon Act, safe drinking water means 'water which is sufficiently free from biological, chemical, radiological, or physical impurities such that individuals will not be exposed to disease or harmful physiological effects." Under the Oregon Act, the Health Division has broad authority to set water quality standards necessary to protect public health through insuring safe drinking water within a public water system. To accomplish this, the Division is directed under the Act to require regular water sampling

continued on page 2

Inside this issue:

Loan Fund Projects (continued from page 1)

Please take the time to complete the attached 2-page ***Letter of Interest* - if** you have a drinking water improvement project within the next year or two, and you are considering using public financing for any phase of that project. Mail your completed ***Letter of Interest*** to Oregon Economic Development Department at the address on the form by April 6, 1998.

What kinds of projects are eligible for the new Safe Drinking Water Revolving Loan Fund?
(NOTE: For a planning project to be eligible, it must be part of a needed construction project.)

- Planning: water master plans, filter pilot studies, engineering feasibility studies
- Final engineering and design: including engineering drawings and bid specs
- Construction.

Who can apply for financing?

- Community water system: city, water district, privately owned water company, or a nonprofit water system such as an association or cooperative
- Nonprofit non-community water system such as a school, camp, or hospital

How important is knowing project cost?

- The ***Letter of Interest*** asks for your best estimate of project cost. When a final financing application is submitted, specific cost information will become very important.

Is the ***Letter of Interest*** a commitment to borrow loan funds?

- The ***Letter of Interest*** is not a final loan request and is not a firm commitment to borrow.

Every ***Letter of Interest*** received will be included in the Intended Use Plan and will become part of Oregon's Safe Drinking Water Revolving Loan Fund application to EPA. Each ***Letter of Interest*** will be evaluated and given a ranking according to the following: 1) projects that address the most serious risk to human health; 2) projects that are necessary to ensure compliance with the Safe Drinking Water Act; and 3) water systems most in need, on a per household basis, according to affordability criteria. Special consideration will be given to small water systems that serve 10,000 or fewer people, systems that are ready to proceed, and systems that plan to merge or consolidate with another system as a solution to a compliance problem or have an innovative solution to the stated problem.

Questions? If you have questions about the ***Letter of Interest*** or the Safe Drinking Water Revolving Loan Fund, please call Oregon Economic Development Department at (503) 986-0122 or (800) 233-3306 and ask for a Project Coordinator. Dave Phelps, Water Fund Coordinator, Drinking Water Program can be reached at (503) 731-4010.

Dave Phelps is Water Fund Coordinator of the Drinking Water Program

Annual Compliance Report (continued from page 1)

by water suppliers. These samples must be analyzed in laboratories approved by the Division, and the results of laboratory tests on those samples must be reported by the water supplier to the Division. The Division must investigate water systems that fail to submit samples, or whose sample results indicate levels of contaminants that are above maximum allowable levels. Water suppliers who fail to sample the water or report the results, or whose water contains contaminants in excess of allowable levels must take corrective action and notify water users.

Since 1986, the Division has exercised primary responsibility for administering the federal Safe Drinking Water Act in Oregon, an arrangement called Primacy. The Health Division adopts and enforces standards that are no less stringent than the federal standards, and in return, the US Environmental Protection Agency gives the Division the regulatory responsibility for public drinking water systems and partial financial support for the Oregon program operation. A full description of the current drinking water standards was published previously (PIPELINE, Winter 1995).

In practice, the Oregon drinking water standards match the national standards established under the Safe Drinking Water Act by the USEPA. This is because setting maximum levels for drinking water contaminants to protect human health involves considerable development of health effects information and other scientific research that is best carried out at the national level. The Health Division concentrates its efforts on implementing the national standards at Oregon public water systems. Drinking water quality standards consist of two parts; a maximum allowable level for each contaminant (called a Maximum Contaminant Level, or MCL) and a sampling and reporting frequency. For contaminants that can not be readily detected or measured in water, the standard may be a treatment technique requirement, which means that in place of regular water sampling and reporting, all water systems at risk of the contaminant are required to provide water treatment processes to remove the contaminant at all times.

Sampling frequencies vary by the type of drinking water contaminant. Contaminants that are associated with immediate health impacts, like bacteria and nitrates, must be sampled often, such as every month, quarter, or year. Contaminants associated with health effects that could develop from very long-term exposures, like arsenic, are tested less frequently, such as every 3 or 4 years.

Oregon Public Water Systems

In 1996, there were 2,707 public water systems in Oregon subject to regulation under the federal Safe Drinking Water Act. (Note that an additional 900 very

small systems are subject only to the Oregon Act.) Of these, 890 are community water systems, which means the systems serve at least 15 connections used by year-round residents. These systems perform the most frequent water sampling for the greatest number of contaminants, because the people served have the most ongoing exposure to the drinking water. **Community water systems** in Oregon serve a total of almost 2.5 million people and range in size from 15-home subdivisions and mobile home parks up to and including the City of Portland. **Nontransient noncommunity water systems** serve nonresidential populations consisting of the same people every day, such as a school or workplace with its own independent water supply system. There are 339 of these in Oregon. **Transient noncommunity water systems** serve transient populations. Examples are campgrounds, parks, or restaurants with their own independent water supply systems, and there are 1,488 of these in Oregon. By comparison, about 500,000 Oregonians get their drinking water from **individual home wells,** which are not subject to public water system standards or rules.

Oregon public water systems get their water either from wells or springs (called groundwater) or from rivers, lakes, or streams (called surface water). Of the 2,707 public water systems in Oregon, 2,428 get their water exclusively from groundwater. 279 water systems get their water in whole or in part from surface water supplies. Generally speaking, surface water requires much more treatment and processing to ensure safety for drinking than does groundwater.

There are many small water systems in Oregon. Almost 87% of the public water systems in Oregon serve 500 or fewer people each.

Compliance Results for 1996

There are now drinking water quality standards for more than 80 different contaminants. Most have an established maximum level and a sampling requirement. Others have treatment technique requirements. The standards can be grouped into the following general categories:

Microbiological Contaminants - Monthly or quarterly sampling for coliform bacteria.

Surface Water Treatment - treatment technique for continuous disinfection of water from all surface water sources, and for continuous filtration treatment for most surface water sources.

Lead and Copper - Monitoring for levels of lead and copper leached from household plumbing by corrosive water supplies. Systems that exceed "action levels" must install corrosion control treatment systems.

Organic Chemicals - periodic testing for man-made pesticides and solvents, and by-products of chlorine disinfection treatment called "trihalomethanes".

Inorganic Chemicals - periodic testing for metals and minerals, both naturally occurring and resulting from agricultural and industrial use

Radiologic Contaminants - periodic testing for naturally occurring and man-made radioactive contaminants.

969 public water systems achieved full compliance with all standards and sampling requirements during 1996, as shown in the table at the bottom of the page. Note that systems with lead or copper levels above the action levels are not in violation, unless they fail to take corrective action by January, 1998.

The attached tables present summaries of the violations of both maximum levels, treatment requirements, and sampling and reporting requirements for categories of contaminants. Table 1 summarizes the number of violations which occurred during 1996, and the number of water systems in violation, by categories of contaminants. Tables 2 and 3 show this information, plus additional minor sampling violations, organized by size of systems. Note that totals presented on Table 2 have been adjusted to avoid double-counting water systems that violate multiple requirements.

Over 1800 of the public water systems experienced about 5000 violations of maximum levels and sampling requirements. This means that some water systems violated requirements on multiple occasions or violated requirements for multiple contaminants. Since most Oregon water systems are small, most violations occurred at small water systems. In addition, most violations overall (4,572) are for failure to sample and report results, rather than violations of maximum levels or treatment requirements (473). Violations of

Population Size Range	Total Number of Water Systems in 1996	Number of Water Systems With No Violations in 1996
25-500	2,353	814
501-3,300	261	114
3,301-10,000	42	17
10,001-100,000	47	21
more than 100,000	4	3
Total	2,707	969

maximum levels, action levels, or treatment requirements mean that there were actual or possible exposure of people to drinking water contaminants. Violations of a sampling requirement means that water systems did not sample for contaminants or did not report the test results for certain contaminants on time. Major sampling violations mean that no water sample results were reported for a particular reporting period, while minor sampling violations mean that an insufficient number of samples were reported. Lists of water suppliers that violated maximum levels or treatment requirements during 1996 are available from the Division, and can be viewed on our drinking water web page.

The groups of contaminants are discussed individually below.

Microbials (Coliform Bacteria). All 2,707 public water systems must sample routinely for coliform bacteria. Coliform bacteria in drinking water are not usually harmful in themselves, but their presence signals the possible presence of harmful microorganisms. Small systems sample at least once per month or quarter, while very large water systems must collect up to a hundred or more samples per month. The Division received almost 61,000 coliform bacteria test results in 1996.

Twenty-three systems found fecal coliform in the drinking water and people were advised to boil their drinking water until the cause of the contamination could be found and corrected. 166 systems found total coliform in their water and took corrective action. The Division expends considerable effort working with systems to prevent and correct these types of water problems because they represent a significant and immediate potential risk to health.

Most of the microbial violations were for failure to monitor and report results. 1,095 water systems failed to submit any coliform samples for at least one month or quarter during the year. These systems had 2,212 monitoring violations, so some systems failed to submit sample results more than once during the year. While this is a substantial amount of nonreporting, Oregon public water systems have a total of almost 18,000 opportunities to sample and report during each year. This means that in 1996, almost 87% of the required test results were submitted by Oregon water systems.

Surface Water Treatment. Standards require that most water systems that draw water from lakes, rivers, and streams continually treat the water by filtration and disinfection to remove or kill microorganisms like bacteria, viruses, and protozoans that can cause waterborne disease outbreaks. The last recognized waterborne disease outbreak in a community water system in Oregon occurred in the City of Talent in 1992 (cryptosporidiosis). Surface water treatment standards are established to assure that the proper level of treatment is practiced at all times. In Oregon, there are still 25 community systems that do not have filtration treatment and must install it, although this is down from 52 in 1992. These remaining unfiltered systems are on administrative orders from the Health Division to install treatment, and work is continuing on those systems. Of the systems with filtration treatment, 62 failed to meet treatment level requirements on at least one occasion during 1996. The Division worked with those systems to help them improve their operation, their facilities, or both. 112 systems failed to report treatment performance data on at least one occasion.

Lead and Copper. 1220 systems were required to conduct initial monitoring for lead and copper between 1992 and 1994. By January of 1996, all but 151 systems had completed the initial monitoring. By the end of 1997, 51 still had not done so. This required a major effort by water suppliers and Division staff; the delay in completing initial monitoring is a reflection of the enormous scope and complexity of the lead and copper regulation. At the end of 1996, 139 of the systems reporting test results had exceeded established action level for lead, and 114 exceeded the action level for copper.

Inorganic Chemicals. Nitrate maximum levels were violated by three water systems in Oregon during 1996. Three additional systems violated the maximum level in 1995, and into 1996. Due to the high degree of hazard to children, these systems were fixed or are under order to correct the problem. Sampling frequencies for nitrate were recently increased, and 1,000 water systems failed to increase their sampling to the new frequency in 1996. Efforts are underway to better inform water systems of these requirements.

While water systems in Oregon rarely violate maximum levels for inorganic contaminants, they are routinely detected in drinking water systems at levels more than one-half the maximum level. The most-detected inorganics (and number of detections since 1988) are nitrate (565), arsenic (83), cadmium (32), fluoride (26), and nitrite (25). Fact sheets on these contaminants are available from the Division and the drinking water web page.

Organic Chemicals. In 1993-95, water systems in Oregon began initial sampling for over 50 organic chemicals. Out of 1,220 water systems required to test, 1,190 completed that sampling and reported their results. The second round of testing is underway during 1996-98. So far about 500 test results have been received and no violations of maximum levels have been found. In 1996, five water systems serving more than 10,000 people each failed to report total trihalomethanes as required on at least one occasion.

Again, Oregon water systems rarely violate maximum levels for organic chemicals. The contaminants detected at levels less than maximum levels in past monitoring data (and number of detections since 1988), include tetrachloroethylene (153), trichloroethylene (133),

continued on page 9

OREGON COMMUNITY DEVELOPMENT
Oregon Economic Development Department
775 Summer Street NE
Salem, Oregon 97310
Phone: (503) 986-0122
(800) 233-3306

1998 LETTER OF INTEREST

SAFE DRINKING WATER REVOLVING LOAN FUND

SECTION 1: APPLICANT

Applicant:

Address:

Phone:

Fax No.:

E-mail Address:

Contact Person:

Address:

Phone:

Fax No.:

PLEASE SUBMIT AN ORIGINAL AND 4 COPIES

Population:
A. Community Population:_____
B. Project Area Population:_____
C. Number of Connections_____

Project Type:
❑ Planning, Preliminary Engineering
❑ Final Design & Specifications
❑ Construction

Readiness to Proceed:
Give the estimated date construction on this project will begin:_____

For Department Use Only:
❑ Referred to SPWF ❑ Referred to W/W
❑ Referred to CDBG

SECTION 2: PROJECT TITLE:

SECTION 3: SDWRLF FUNDS REQUESTED AND PROJECT COSTS

Safe Drinking Water Revolving Loan Funds Requested	$_____
Additional Applicant Funds	$_____
Other Funds (list source)	
_____	$_____
_____	$_____
Total Cost of Project	$_____

SECTION 4: BRIEF PROJECT SUMMARY (Answer only in the space provided.)

A. Describe Drinking Water Quality Problem:

B. Describe the Proposed Solution to the Problem:

SAFE DRINKING WATER REVOLVING LOAN FUND - 1998 LETTER OF INTEREST

SECTION 5: LOAN REPAYMENT AND FINANCES

A. Source of Loan Repayment *(check one or more that will apply)*:

❑ Water user fees ❑ Voter-approved General Obligation ❑ Connection Fees

❑ Reserves ❑ Other: _____

B. Total debt supported by the water system

1. Current debt paid by water fees ..... $ _____
2. Current debt paid by property taxes ..... $ _____

C. Current average monthly residential user fee ..... $ _____

D. Current average annual property taxes paid per residence for water system debt ..... $ _____

SECTION 6: WATER SYSTEM

Are all water system service connections metered? ❑ Yes ❑ No

If no, what percentage is not metered? _____ %

SECTION 7: CERTIFICATION

I certify that, to the best of my knowledge, all information contained in this pre-application and letter of interest is valid and accurate.

Authorized Signature _____ Title _____

Jurisdiction _____

Name _____ Date _____
(type or print)

Note: This letter of interest will be used to create a ranked list of potential projects to be funded by the Safe Drinking Water Revolving Loan Fund. Those who fill out the form and submit it to the department are not obligated to accept a loan or grant simply by submitting this letter of interest.

Instructions for Safe Drinking Water Revolving Loan Fund 1998 Letter of Interest

Please submit the complete **Letter of Interest** by ***April 6, 1998***

Economic Development Department
Regional Development Division
775 Summer Street NE
Salem, Oregon 97310
(503) 986-0122 or (800) 233-3306

Below are directions and information for many of the questions on the Letter of Interest. If you have other **questions** about completing this form, please call the Oregon Economic Development Department and ask for a Project Coordinator.

SECTION 1: APPLICANT

Population:

A. **Community Population:** Current population of the applicant's community. This is requested to identify applicants qualifying as small communities (10,000 people or fewer).

B. **Project Area Population:** Current population of the area which will be affected by the proposed project. This should not include projected growth.

C. **Number of Connections:** Number of connections served by the water system.

Project Type:

Letters of Interest may be submitted for loans for different phases of a project. Please note the type of project you are applying for.

You must fill out separate *Letters of Interest* for each water system project. For instance, one project might be to add finished water storage at a surface water treatment plant to increase chlorine contact time, while another project might be to add treatment for nitrate problems, and possibly a third project might be to replace aging or leaking distribution lines because of coliform violations.

Readiness to Proceed:

Estimate the date [month/year] you think you will begin construction on your water system project. For funding in this loan cycle of the Safe Drinking Water Revolving Loan Fund, a planning, engineering design or construction project should be ready to start by December 1998.

SECTION 2: PROJECT TITLE

Give the project a short title (5 to 7 words).

SECTION 3: SDWRLF FUNDS REQUESTED AND PROJECT COSTS

Estimate the amount needed for the project. List the amount requested from the Safe Drinking Water Revolving Loan Fund. Then list other planned project funding by source, whether or not the funds have already been committed to the project. Grant funds may be available from other Economic Development programs (i.e. Community Development Block Grant or the Water/Wastewater Financing Program). The Safe Drinking Water Revolving Loan Fund is a loan program, but it offers low interest rates.

SECTION 4: BRIEF PROJECT SUMMARY (Answer only in the space provided.)

A. **Describe Drinking Water Quality Problem:** Briefly describe the water system's specific drinking water quality problem. Indicate whether the system has been issued an Administrative Order, Mutual Agreement and Order, compliance schedule or other form of formal enforcement action issued by the Oregon Health Division that requires compliance with the Safe Drinking Water Act. If none of the above, provide documentation that shows the system has exceeded a maximum contaminant level(s) for a water quality standard enforced by the Oregon Health Division and which form of enforcement action may be pending. Other documents which have proven useful include engineering studies, water system master plans and facility plans. Also note if your project will be located in either a groundwater management area or a state-approved delineated wellhead protection area.

B. **Describe the Proposed Solution to the Problem:** Describe briefly the work to be done, whether this project is part of another larger project, and any other relevant information that will identify the location and scope of what is proposed. If the project is for planning, preliminary or final engineering, describe the scope of the planning effort.

SECTION 5: LOAN REPAYMENT AND FINANCES

A. Identify the proposed source(s) of funds for repayment of the Safe Drinking Water Revolving Loan. Mark as many sources as you will use to repay the loan.

B. Fill in the amount of debt (funds the system has borrowed in the past to make water system improvements) supported by the water system. Identify the debt by how it is being repaid—by water user fees or property taxes.

C. Fill in the amount of the <u>average monthly residential water bill</u>. Use 7,000 gallons per month if you need an average monthly use.

D. Fill in amount of average annual <u>property taxes</u> paid per residence for water system debt. The calculation you should complete is: (Average residential assessed value ÷ 1,000) x property tax rate for the water system debt. If you need assistance with this calculation, please call your county assessor/tax collector or call the Economic Development Department's Financial Analyst at (503) 986-0128.

SECTION 6: WATER SYSTEM

Please note if all water system connections are metered. If not all connections are metered, please note what percentage is <u>not</u> metered.

SECTION 7: CERTIFICATION

This Letter of Interest should be signed by a mayor, city manager or administrator, county commissioner, water district chair, association or board president, or other responsible official or officer.

QUESTIONS OR PROBLEMS

Call the Oregon Economic Development Department at (503) 986-0122 or (800) 233-3306 and ask for a Project Coordinator.

Annual ComplianceReport (continued from page 4)

polychlorinated biphenyls or PCBs (64), 1,1,1 trichloroethane (48), and toluene (30). Pesticides have been detected much less often - 1,2 dicloropropane (7), 2,4-D (6), atrazine (6), and ethylene dibromide (6). Fact sheets on these contaminants are available from the Division and the drinking water web page. Generally, water suppliers have either abandoned, reconstructed, or replaced contaminated wells or installed treatment to eliminate even low levels of these contaminants from the water supply.

Radiological Contaminants. No violations of standards occurred during the report period. Naturally occurring radiological contaminants are detected in Oregon water systems, but at very low natural background levels. 296 sample results for radiologic contaminants were received during 1996.

Water System Improvements

During 1996, a number of water systems completed substantial improvements or changes to facilities in order to come into compliance with drinking water standards. Details are given in table on top of page 10.

Enforcement Activities

During 1996, the Division issued 65 Administrative Orders and 15 Notices of Violation for high-priority violations of standards, primarily for coliform and nitrate maximum level violations, surface water treatment violations, and repeated failures to sample and report sample results. The Division received evidence of 365 notifications about violations issued to water users from water suppliers as required by regulations.

Conclusions

Oregon water suppliers and the Health Division drinking water program must continue to focus efforts on responding to coliform bacteria contamination, getting filtration treatment installed at unfiltered supplies that must filter, improving filtration treatment facilities and their operation, installing treatment to control lead and copper at the tap, and improving monitoring for coliform bacteria and nitrates. Additional work is needed to better inform smaller water systems of regulatory requirements, particularly in the area of sampling.

Measuring Progress

The Oregon Safe Drinking Water Benchmark, stated below, is intended to measure progress of public water suppliers toward meeting safe drinking water standards in Oregon:

"The percentage of Oregonians served by public drinking water systems that meet all health-based standards continuously during the year"

Meeting all health-based standards at all times during the year is an important indicator of drinking water safety. The benchmark presumes that required monitoring of water supplies is carried out, and as shown above, Oregon water suppliers need to improve in this area. The benchmark includes the following health-based standards, listed from highest to lowest health risk:

- E. Coli (or fecal coliform) bacteria maximum level
- Surface water treatment performance levels (filtration and disinfection)
- Nitrate/Nitrite maximum levels
- Chemical/Radiological maximum levels
- Lead action level
- Total coliform bacteria maximum level
- Copper action level

Included in the benchmark are about 1,300 public water systems that serve the majority of the state's population, including all community systems, all nontransient noncommunity systems, and the larger transient noncommunity systems (serving over 500 people per day).

The Oregon benchmark goal is to reach 95% by 2005. Results for the last three years are 1994-49%, 1995-50%, and 1996-56%. The 1997 projection is 75%.

Tables: (on page 10 and 11)

Table 1 - Oregon Violation Summary, 1996
Table 2 - Number of Public Water Systems in Violation (by size range), 1996
Table 3 - Number of Violations by Public Water Systems (by size range), 1996

Listings of water systems that violated maximum levels or treatment requirements in 1996 (and fact sheets on specific contaminants) are available on request or from the Oregon Drinking Water web page (http://www.ohd.hr.state.or.us/cehs/dwp):
-Chemicals
-Coliform Bacteria (Fecal/E. Coli and Total Coliforms)
-Treatment Requirement Violations (Filtered Systems)
-Unfiltered Systems (Required to filter)

CROSS CONNECTION UPDATE
By Bonnie Waybright, PE

The current list of approved backflow assemblies is dated December 1997. Call (503)731-4899 to request a copy.

1997 Annual Summary Report

The 1997 Annual Summary Report (ASR) forms have been mailed. Problems with printing the forms caused them to go out late, so the due date was extended to March 27, 1998. This was an automatic extension. Written requests for these extensions were not required.

Bonnie Waybright, PE, is in the Field Services Unit of the Drinking Water Program

1996 Water System Improvements

Water System Name	Population Served	County	Improvement
Alderwood Water Development	35	Lane	Install filtration
City of Idanha	235	Linn	Install filtration
Locust Mobile Home Park	60	Umatilla	Improve disinfection
City of Marcola	500	Lane	Abandon well (arsenic)
Polehn Hts Water Assn.	130	Clackamas	Install disinfection
City of Reedsport	6000	Douglas	Ozone disinfection
City of Seaside	5000	Clatsop	Install filtration
City of Sisters	820	Deschutes	Develop wells, abandon surface water source
City of Waldport	3000	Lincoln	Improve filtration
Weiss Estates	35	Coos	Install filtration
City of Wilsonville	9680	Clackamas	Install disinfection

Table 1 - Oregon Violation Summary, 1996

	Number of violations	Number of water systems In violation
Microbials - Coliform:		
Fecal Coliform/E. coli max level	29	23
Total Coliform maximum level	210	166
Major sampling violations	2,352	1,176
Microbials - Surface water treatment:		
Filtration treatment failures	236	62
Unfiltered systems	25	25
Major sampling violations	551	112
Lead and Copper:		
Failure to perform initial sampling	151	151
Exceed lead action level	139	139
Exceed copper action level	114	114
Chemicals:		
Nitrate maximum level	3	3
Nitrate sampling	1,000	1,000
Arsenic maximum level	1	1
Trihalomethane sampling	7	5

Table 2 - Number of Public Water Systems in Violation by Population Category
(Oregon - 1996)

(SDWIS-FED Production Database)

Contaminant and Violation Type	Population Size Ranges					
	25 - 500	501-3,300	3,301-10,000	10,001-100,000	>100,000	Total
Total Public Water Systems:	2,353	261	42	47	4	2,707
Total Population Served:	282,323	354,024	254,656	1,081,906	855,983	2,828,892
Violation Summary:						
Maximum Levels:	171	16	3	2		192
Sampling/Reporting:	1,583	141	21	26	1	1,772
Treatment Requirements:	34	23	3	2		62
Total (maximum level and sampling)	1,614	156	25	27	1	1,823
Coliform Bacteria:						
Fecal/E. coli maximum level	22	1				23
Total coliform maximum level	146	15	3	2		166
Major routine sampling violation	1,061	31	3			1,095
Minor routine sampling violation	221	60	11	15		307
Major violation (repeat sampling)	100	13	1	2		116
Minor violation (repeat sampling)	84	6	1	1		92
Total of Coliform Violations	1,293	97	17	19		1,426
Surface Water Treatment:						
Failure to Filter	12	9	4			25
Sampling, routine/repeat (filtered systems)	76	29	3	4		112
Treatment requirements (filtered systems)	34	23	3	2		62
Total Surface Water Violations	95	48	8	5		156
Nitrate:						
Maximum level	3					3
Sampling	930	61	6	2	1	1,000
Chemical and Radiologic Contaminants:						
Trihalomethane maximum level						
Arsenic maximum level	1					1
Trihalomethane sampling				5		5
Lead and Copper:						
Initial sampling	145	6				151
Exceed Lead Action Level	85	30	9	13	2	139
Exceed Copper Action Level	73	25	6	8	2	114

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Table 3 - Number of Violations by Population Category
(Oregon - 1996)

(SDWIS-FED Production Database)

Contaminant and Violation Type	Population Size Ranges					
	25 - 500	501-3,300	3,301-10,000	10,001-100,000	>100,000	Total
Total Public Water Systems:	2,353	261	42	47	4	2,707
Total Population Served:	282,323	354,024	254,656	1,081,906	855,983	2,828,892
Violation Summary:						
Maximum Levels:	214	20	2	2		238
Sampling/Reporting:	4,132	354	49	36	1	4,572
Treatment Requirements:	132	95	7	2		236
Total (maximum level and sampling)	4,477	469	58	40	1	5,045
Coliform Bacteria:						
Fecal/E. coli maximum level	28	1				29
Total coliform maximum level	186	19	2	2		209
Major routine sampling violation	2,162	46	4			2,212
Minor routine sampling violation	272	96	22	18		408
Major violation (repeat sampling)	122	14	1	3		140
Minor violation (repeat sampling)	93	8	1	1		103
Total of Coliform Violations	2,858	184	30	24		3,096
Surface Water Treatment:						
Failure to Filter	12	9	4			25
Sampling, routine/repeat (filtered systems)	408	123	15	5		551
Treatment requirements (filtered systems)	132	95	7	2		236
Total Surface Water Violations	552	229	26	7		814
Nitrate:						
Maximum level	3					3
Sampling	930	61	6	2	1	1,000
Chemical and Radiologic Contaminants:						
Trihalomethane maximum level						
Arsenic maximum level	1					1
Trihalomethane sampling				7		7
Lead and Copper:						
Initial sampling	145	6				151
Exceed Lead Action Level	85	30	9	13	2	139
Exceed Copper Action Level	73	25	6	8	2	114

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Drinking Water Program, Oregon Health Division
Department of Human Resources
P.O. Box 14450
Portland OR 97214-0450

PERIODICALS
POSTAGE
PAID
PORTLAND OR

TRAINING CALENDAR

Clackamas Community College
Dan Lundy/(503)657-6958
Jun. 17-19 Waterworks Short School

NW Oregon/AWWA
Troy Bowers; Murray, Smith & Assoc.
(503)225-9010
Apr. 7 Rate-Setting & Financial Planning for Water Utilities

OCT, Inc.
Robert Funk/(503)650-8735
Apr. 10 Groundwater and Wells Short Course
Apr. 13-17 Water & Distribution Certification Preparation Grades I-III

OR Chapter APWA
(541)926-0044
Apr. 8-9 Construction Inspection

Cross Connection/Backflow Courses
Backflow Management Inc. (B)
800-841-7689
Clackamas Community College (C)
(503) 657-6958 ext. 2364

Backflow Assembly Tester Course
June 8-12 Oregon City (C)

Backflow Assembly Tester Retraining/ Recertification
May 14-15 Oregon City (C)
June 5 Oregon City (C)

Cross Connection Inspector Course
Apr. 6-9 Portland (B)
Apr. 13-16 Oregon City (C)
June 1-4 Bend (B)

Cross Connection Inspector Update
Apr. 10 Portland (B)
Apr. 17 Oregon City (C)

Water System Training Courses
Oregon Health Division (503)731-4317
Apr.* Grants Pass and Hillsboro
May* Wilsonville, The Dalles and Sandy
June* Coos Bay
*dates and exact locations to be announced

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