

## Protecting Public Health by Assuring Safe Drinking Water

Vol. 19 Issue 2 • SPRING 2004

[www.dhs.state.or.us/publichealth/dwp](http://www.dhs.state.or.us/publichealth/dwp)

*The Task Force on Drinking Water Program Workload and Funding was formed in response to House Bill 2255 after the 2003 Legislature (see article in Winter 2004 PIPELINE). The Task Force met from October 2003 to April 2004, and on April 9 delivered the recommendations discussed below to the Legislative interim committee and to the Department of Human Services. In addition, the Task Force presented its recommendations on April 29, 2004, to the Water Subcommittee of the House Interim Committee on Agriculture and Natural Resources, and asked the Committee to introduce a bill in the 2005 Legislature to implement the recommendations. We thank the members of the Task Force for their time, energy, and thoughtful deliberation. The following is the full text of the Task Force recommendations - Dave Leland.*

This letter presents the recommendations of the Task Force on Drinking Water Program Workload and Funding.

### Charge

The Task Force was formed after the 2003 Legislature by agreement between the Department of Human Services, the League of Oregon Cities, and the Special Districts Association of Oregon. Its purpose was to:

- Identify the Department's level of effort needed to effectively administer the state and Federal Safe Drinking Water Act, and
- Identify the resources needed by the Department to carry out the implementation of the state and Federal Safe Drinking Water Act.

### Program Deficiencies

The Task Force membership represented a broad spectrum of interests in the drinking water program, (page 3). The Task Force met six times between October 2003 and April 2004. Members considered relevant program information provided by the Department, including the Secretary of State Audit Report (2001) and EPA Program Review Findings (2003). These reports identified needed drinking water program improvements in:

- 1) Federal rule adoption and implementation
- 2) Identification of regulatory compliance problems at water systems and assuring their correction

*(Continued on page 2)*

### Drinking Water Program Staffing Changes

We recently bade farewell to three people who are moving on to new opportunities. We wish them well and recognize their contributions to the drinking water program!

Mike Grimm recently joined the staff of the City of Gresham. Mike entered the drinking water program as a Public Health Engineer I in 1986. He specialized over the years in surface water treatment and disinfection by-products, and became a known expert statewide. He served as a regional manager in the field services unit. More recently, he provided key technical support for the drinking water revolving fund implementation.

Brian Rigwood recently joined the Eugene Water and Electric Board. Brian came to the drinking water program in 1998 to coordinate the operator certification program. He brought the special skill of being a certified operator, and used that skill effectively to assist water treatment plant operators. He later became a key contributor to program efforts to improve the technical, managerial, and financial capacity of public water systems statewide.

Nancy Stellmach recently moved to Children's Services within the Department. Nancy was an Office Specialist in the Drinking Water Program, working primarily in support of the drinking water database.

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- 3) Frequency of on-site water system sanitary survey inspections
- 4) Assuring that water suppliers notify the public when required
- 5) Assuring that drinking water laboratories use proper water testing methods, and
- 6) Assuring that water suppliers submit all required water test results to the Department in a timely manner.

**Consensus**

Members asked many questions, and carefully and thoughtfully deliberated on workload requirements and a wide variety of funding alternatives. The Task Force focused on services that water suppliers need from the Department to assist them in providing safe drinking water. The Task Force reached consensus on the following points:

- It is essential that the Department retain primary administration and enforcement responsibility (Primacy) for the Federal Safe Drinking Water Act in order to most effectively assure safe drinking water for Oregonians.
- The Department requires additional resources to carry out its responsibilities for safe drinking water in a credible, effective, and sustainable manner. The specific recommended program functions and staffing levels are shown in Table 1 (page 3).
- Assuring safe drinking water is a statewide responsibility and impacts the entire State population. Therefore, funding for the Department's work should come primarily from available Federal funds from USEPA, and from State general funds as needed to meet matching requirements for the Federal funds.
- Additional Federal funds for the Department's work are available through the use of additional set-aside allowances from Oregon's current annual allocation of EPA revolving loan funds. Such use would reduce by approximately 5% (\$600,000) the amount of funding available to Oregon communities for safe drinking water construction projects. After discussion and consideration, the Task Force finds that the benefit of using those funds for needed program improvements exceeds the benefit of at most one or two additional construction projects per year.
- An increased level of state General Funds is the preferred source of additional match needed to access available Federal funds. In light of the current limitations on General Funds, the Task Force considered an alternative approach. That approach consists of increasing existing Department fees for plan review and operator certification to a level of full cost

recovery for those services, and a new fee for water system sanitary survey inspections currently provided to water suppliers at no cost to them. Specific details are shown in Tables 2 and 3 (page 4).

**Recommendations**

The Task Force presents the following majority recommendations:

- 1) Staffing – Eleven (11) additional FTE deployed according to high priority program functions as identified by the Drinking Water Advisory Committee (2003) and as needed to resolve audit report deficiency findings. Staff positions should be allocated to the Department and to county health departments as appropriate and determined by the Department and counties.
- 2) Funding - \$590,000 per year in additional Federal funds plus \$310,000 per year in additional required matching funds provided by additional General funds. As an alternative to additional General funds, increase existing fees-for-services to recover the full cost of those services and add a new fee for water system sanitary survey inspections.

By implementing this recommendation, the Department can improve the safety of public drinking water in Oregon. This will be accomplished by increasing compliance by public water suppliers with drinking water standards through more timely and effective oversight and assistance.

**Remaining Gaps**

The Task Force notes that significant gaps will remain even with the recommended program improvements that will need to be dealt with in the future:

- 1) New workload will result from four new federal drinking water standards, scheduled for EPA adoption in late 2004 and 2005. The specifics of that workload are known from preliminary rule proposals, but could be influenced by the outcome of the final rules. The Department must adopt and implement these rules in 2006-09 to retain Primacy.
- 2) The Task Force, after deliberation, chose not to devote resources to oversee the nearly 1,000 very small water systems in Oregon that are not subject to EPA standards, yet are currently subject to Department requirements under state law (ORS 448).

Meeting these two challenges will require additional discussion and deliberation in the future.

The Task Force appreciates the opportunity to provide these recommendations to you and the Department.

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**Task Force** (Continued from Page 2)**Task Force Membership**

**Dan Bradley**, Oak Lodge Water District (Special Districts Association of Oregon)

**Chuck Carpenter**, Manufactured Housing Communities of Oregon (Public Water Systems)

**Dave Crider**, Crescent Water Association (Private-Owned Public Water Systems)

**Jason Green**, Oregon Association of Water Utilities (Small Public Water Systems)

**Todd Heidgerken**, Tualatin Valley Water District (Special Districts Association of Oregon)

**Roger Jordan**, Task Force Chair, City of Dallas (League of Oregon Cities)

**Mike Meszaros**, Curry County Health Department, (Department of Human Services)

**Tom Penpraze**, City of Corvallis (League of Oregon Cities)

**Louise Questad**, League of Women Voters (Department of Human Services)

**Amanda Rich**, Special Districts Association of Oregon

**Gail Shibley**, Office of Public Health Systems, Department of Human Services

**Richard Sowa**, US Forest Service-Public Water Systems (Federal Agency Representative)

**Willie Tiffany**, League of Oregon Cities

**Table 1 - Recommended Additional Staffing**

<b>Statewide Program Function</b>	<b>Current Staffing</b>	<b>Recommended Additional Staffing</b>
<b>Sanitary Surveys</b> – Inspect water systems to ensure that they have adequate sources, facilities equipment, operations, and maintenance to produce and distribute safe drinking water.	3	2
<b>Investigate Contamination Events</b> – Investigate detections of contaminants in water systems and assist water suppliers on follow-up actions to ensure public health is protected.	1.3	0.5
<b>Provide Regulatory Assistance</b> – Educate water suppliers on contaminant standards, source water treatment options, reporting, recordkeeping, and public notification.	2	1
<b>Investigate and Resolve Significant Noncompliance</b> – Investigate water suppliers with significant noncompliance problems, and ensure that those water suppliers test their water properly and correct contamination conditions to provide safe drinking water.	1.3	1
<b>Improve Surface Water Treatment</b> – Review and evaluate operations of surface water filtration plants to ensure optimal removal of particulates and inactivation of microorganisms to ensure protection of health.	1	2
<b>Issue and Complete Enforcement Actions</b> – Initiate enforcement actions if necessary to compel compliance by water suppliers that violate monitoring requirements and contaminant standards.	1	1
<b>Groundwater Under Influence of Surface Water</b> – Assure that wells located close to rivers and streams are either free from direct influence or are properly treated as surface water supplies (filtration and disinfection).	0	0.5
<b>Manage and Operate Database System</b> – Develop, update, and maintain data systems (such as networks, internet connections, purchasing and development of software) that track compliance and analytical data. Develop and maintain computer programs to help staff monitor and track compliance with safe drinking water standards.	1.5	2
<b>Adopt and Implement EPA Rules</b> – Incorporate new EPA rules into state rule framework, conduct fiscal and impact analyses, conduct rule adoption proceedings, comments, and hearings, and conduct statewide initial implementation and education.	0.5	0
<b>Total Technical Staff (+ support staff)</b>	11.6	10(+1)

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**Task Force** (Continued from Page 3)

**Table 2 - Recommended Additional Funding**

<b>Funding Mechanism</b>	<b>Recommended Additional Local \$ per year</b>	<b>Federal Funds Leverage (1:1.9)</b>	<b>Total Additional Recommended \$ per year</b>
Plan Review Fees	\$ 80,000	\$152,000	\$232,000
Operator Certification Fees	\$ 15,000	\$ 29,000	\$ 44,000
Sanitary Survey Fees	\$215,000	\$409,000	\$624,000
<b>Total</b>	<b>\$310,000</b>	<b>\$590,000</b>	<b>\$900,000</b>

**Table 3 - Recommended Water System Sanitary Survey Inspection Fees**

<b>Water system type and population</b>	<b>Number with any surface water supplies (3-yr inspection frequency)</b>	<b>Number with only ground-water supplies (5-yr inspection frequency)</b>	<b>Number of inspections per year, statewide</b>	<b>Actual cost of single inspection (plus follow up)</b>	<b>Proposed fee per inspection</b>	<b>Annual revenue</b>
Community Water Systems (>10,000)	42	10	16	\$2,400	\$2,400	\$ 38,400
Community Water Systems (3,301-10,000)	32	18	14	\$1,600	\$1,600	\$ 22,400
Community Water Systems (501- 3,300)	69	87	40	\$1,200	\$1,200	\$ 48,000
Community Water Systems (301 - 500)	15	48	15	\$1,050	\$1,050	\$ 15,750
Community Water Systems (101 - 300)	36	182	49	\$1,050	\$ 500	\$ 24,500
Community Water Systems (25 - 100)	27	304	70	\$1,050	\$ 150	\$ 10,500
Nontransient Noncommunity Water Systems	10	322	68	\$1,050	\$ 150	\$ 10,200
Transient Noncommunity Water Systems	73	1,371	299	\$ 525	\$ 150	\$ 44,850
Non-EPA Very Small Water Systems	44	871	189	\$525	Not Served	\$0
<b>Totals</b>	<b>348</b>	<b>3,213</b>	<b>760</b>	<b>-</b>	<b>-</b>	<b>\$214,600</b>

## New Disinfection By-products Requirements Now Apply!

by Evan Hofeld

The new disinfection by-products requirements now apply to all Community Water Systems and Non-Transient Non-Community water systems that add a chemical disinfectant (excluding U/V disinfection) to their water or that purchase from a system that adds a chemical disinfectant. Some basic information is given below, and additional details can be found on the drinking water web page. Just go to the following link: <http://170.104.158.16/outreachplan.php3>, enter your water system identification number (e.g. 4199999), and click on the link titled: "DBP/TOC/Bromate/Chlorine Monitoring". Also see the flowchart on page 6 and 7.

### Description:

Disinfectant By-products (DBPs) include Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). These by-products are formed when chemical disinfectants react with organic compounds (such as TOC). DBPs are a health concern because they may cause cancer, as well as liver, kidney, and central nervous system problems.

### Monitoring:

DBP Monitoring applies to Community Water Systems and Non-Transient Non-Community water systems that add a chemical disinfectant (excluding U/V disinfection) to their water or that purchase from a system that adds a chemical disinfectant. Monitoring is summarized in the table below:

### Sample Points:

Sample sites for a typical water system are listed below. DBP MAX refers to the point of maximum residence

time in the distribution system and generally, this is the point farthest from the point of disinfection. This is the location where water suppliers who take only one sample must use. The other DBP points refer to points within the distribution that represent an average disinfectant level, and are used by large water suppliers who must take at least four samples. Example addresses:

DBP MAX01 800 NE Oregon Street  
 DBP01 1501 N Vancouver  
 DBP02 803 N Interstate  
 DBP03 3456 NE Halsey

### Maximum Contaminant Levels:

Disinfection By-product	Maximum Contaminant Level (mg/l)
Total Trihalomethanes (TTHM)	0.080 as a Running Annual Average
Haloacetic Acids (HAA5)	0.060 as a Running Annual Average

### Determining Compliance with the Maximum Contaminant Levels:

A running annual average is the arithmetic average of results and is calculated at the end of every quarter for the previous consecutive four-quarter period. Compliance is achieved when the running annual average of TTHM results are less than 0.080 mg/L and the running annual average of HAA5 results are below 0.060 mg/L.

### Fact Sheets, Monitoring Schedules, and Sampling Points will be available on the Website.

Evan Hofeld, Natural Resource Specialist, is in the Monitoring & Compliance Unit of the Drinking Water Program / (503) 731-4317 or [evan.e.hofeld@state.or.us](mailto:evan.e.hofeld@state.or.us)

## Monitoring for Total Trihalomethanes & Haloacetic Acids

System Type	Routine Monitoring	Reduced Monitoring
Surface Water with Population 10,000 & Up	4 Samples per Plant per Quarter	1 Sample per Plant per Quarter
Surface Water with Population 500 – 9,999	1 Sample per Plant per Quarter	1 Sample per Plant per Year
Surface Water with Population less than 500	1 Sample per Plant per Year	No reduction
Groundwater with Population 10,000 & Up	1 Sample per Plant per Quarter	1 Sample per Plant per Year
Groundwater with Population less than 10,000	1 Sample per Plant per Year	1 Sample per Plant per 3 Year Cycle (Jan 1 – Dec 31)

*Note: Water systems are eligible for reduced monitoring frequency when both DBP levels are  $\leq$  to 50% of the MCL and source water TOC running annual average is  $\leq$  4.0 mg/l. Groundwater systems are eligible for reduced monitoring based on disinfection by-product monitoring alone. A "Plant" can be a treatment facility, entry point, well, or a well field and is the point at which a disinfectant is added (refer to your water system info page to view a list of your active treatment plants and which plants include adding a disinfectant as a treatment process).*





## Small Groundwater Operator Certification

by Ron Hall

Following are some useful facts that you can use for future reference regarding the Small Groundwater Operator Certification requirement:

1. Systems having less than 150 connections and using groundwater as a source are required to have an operator with a Small Groundwater Operator (SGWO) certification. This is separate and distinct certification from the Water Distribution and Water Treatment certifications required of larger systems or those using surface water.
2. Getting certified is a **two-step** process. An individual needs to attend our Small Water System Training Course (see the schedule of upcoming SWSTC classes) **and** submit a copy of the certificate from the class along with the SGWO application form to get certified. The application form is available at the training sessions and on the website. Be sure and fill out the form completely. Because it's the water system that is being regulated, someone who has authority to speak on behalf of the system on regulatory issues needs to sign in the Owner/Agent box. An operator can't designate themselves unless they are also the owner/agent.
3. The certification is good for up to three years, expiring July 31 of every third year. You can cross check our records with yours by going to our website, looking up your system and clicking on the operator certification line. You'll see who is designated as certified for your system and the expiration date.
4. To renew, you'll only need to have attended the class once within the three year period between your initial certification and the expiration date. You'll be issued a new certification that will expire three years from the old expiration date. Please don't reapply every year if you take the training. Wait until your recertification is about to expire to reapply.
5. A system can also comply by contracting with someone who is certified. If you do elect to contract with an operator, a copy of the contract must be submitted along with the application form.

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## Operator Certification Corner

by Deb Weatherford

### Technical CEUs Rule Proposal

DWAC (Drinking Water Advisory Committee) recently decided not to distinguish between Technical and Non-technical CEUs accepted for Water Operator renewals. They advised that individual utilities will take the responsibility for training selection for their employees; that they ultimately have the charge for meeting all operating criteria and regulations.

When decisions are made as to which courses to take for continuing education, remember that the public health objective of the operator certification guidelines are to ensure that:

- Customers are provided with an adequate supply of safe, potable drinking water.
- Consumers are confident that their water is safe to drink.
- Water system operators are trained and certified and that they have the knowledge and understanding of the public health reasons for drinking water standards.

EPA developed the guidelines for water system capacity under the Safe Drinking Water Act Amendments of 1996. OESAC follows this capacity criteria to determine course relevance. Capacity is the ability of a water system to reliably produce safe drinking water now and in the future. The three key elements of capacity include:

- Technical
- Managerial
- Financial

More detailed information regarding the three key elements of capacity can be found on the OESAC website at: [www.oesac.com](http://www.oesac.com). OESAC will continue to evaluate course offerings to determine if the training meets this criteria and will indicate this information on the approved course listing on their web page.

### Multi-Entry Exams

Multi-entry exams (in Grade 2 and 3) will be used in Oregon for the first time in the May exam. Our rules allow qualifying individuals to skip exam Grades 1 and/ or 2 to take a higher Grade exam. Grade 3 is a requirement for Grade 4, so that exam cannot be skipped.

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**Operator Certification** *(Continued from Page 8)*

Multi-entry exams have the standard 100 questions and then add 25 need-to-know questions from each exam skipped. Proctors will try to be flexible and allow additional time for multi-entry exams (up to .5 hour extra) at their discretion and availability of the exam room.

**Studying for ABC Exams**

Many requests were received for more exam study information. In response, "Studying For ABC Exams" was prepared from ABC information. This shows categories and percentages of questions for all four Grades of the ABC distribution and treatment exams. All operators in the October exam received this information with their acceptance letter. It is available for everyone on our website at: [www.dhs.state.or.us/publichealth/dwp](http://www.dhs.state.or.us/publichealth/dwp). Click "Operator Certification" from the list on the left. Then click on "Studying for ABC Exams". Any time you are not able to open one of our documents on the web, just call us. We are more than happy to mail it to you. We hope this information helps you as you study. By the way, did you know that Oregon has one of the highest ABC exam passing rates in the country!

**Calculators in Water Operator Exams**

Calculators **with communication or text-editing capabilities** are **not allowed** in certification exams. If your calculator has the ability to store a string of text and communicate it in any way, it will not be allowed. These include, but are not limited to the following calculators:

**Not Permitted in Exam: (this is not an all-inclusive list)**

Casio:	Texas Instruments:
CFX9850+	TI-83, TI-83 Plus and
Hewlett Packard:	TI-83 Plus Silver Edition
HP 41 series	TI-85
HP 42S	TI-86
HP 48 series	TI-89
HP 49G	TI-92
	TI-Voyage 200

**Special Exams**

Special exams are individual exams scheduled between the regular May and October exam dates. The cost is twice the cost of a regular exam. The Drinking Water Program proctors these special exams only in Portland. To avoid a long drive and an overnight stay in Portland, we have new proctoring set up at local community colleges throughout the state. Expect the college to charge you a proctoring fee of \$10-\$25 at the time of the exam.

When you send in a special exam application, indicate a community college where you would like to take your exam. After your application has been reviewed and accepted, you will be contacted with the information needed to set up your exam with the college proctoring service. We will need time to get and send your exam to the college. The college will return the completed exam, and your results will come in the mail from us. The college will have no exam results for you, and we cannot give exam results over the phone. Below are the colleges currently available:

Blue Mountain CC in Pendleton  
 Central Oregon CC in Bend  
 Columbia Gorge CC in The Dalles  
 Klamath Community in Klamath Falls  
 Lane Community in Eugene  
 Linn-Benton CC in Albany  
 Oregon Coast CC in Newport  
 Rogue CC in Grants Pass  
 Southwestern CC in Coos Bay  
 Tillamook Bay CC in Tillamook

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**Small Groundwater Operator Certification**

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- Since it's the water system that is being regulated, if you are the operator for more than one system, you'll need a separate application for each system. We don't have the ability to automatically transfer certifications or update expiration dates from system to system at this time.

If you have further questions or concerns, please contact Ron Hall at (503) 731-4010.

Ron Hall, RS, is in the Monitoring & Compliance Unit of the Drinking Water Program / (503) 731-4010 or [ronald.a.hall@state.or.us](mailto:ronald.a.hall@state.or.us)

## **Cyanobacteria: An Emerging Problem for Drinking Water Systems**

by Ken Kauffman

*This is the first article in an occasional series about contaminants of emerging concern to the drinking water profession. Look for future articles on pharmaceuticals and personal care products, endocrine disruptors, and perchlorates. Or, suggest a topic! Dave Leland*

In 1996 sixty acutely ill dialysis patients in Caruaru, Brazil died while receiving dialysis treatments at a hospital. During the summer of 2002 a 17-year-old high school athlete died within hours after swimming in a Wisconsin golf course lake. Investigations pointed to cyanobacterial toxins in the dialysis water and in the golf course lake as the cause of all the deaths.

Worldwide, a growing body of scientific evidence is implicating a number of common fresh-water cyanobacteria (commonly called blue green algae) in human and animal illness and mortality. There is growing evidence that toxic species are present in most surface waterbodies. Under the right growing conditions the level of toxins can become dangerous to animals and humans who drink the water, who have direct skin contact with the water, or who inhale water droplets or aerosols.

Approximately 11% of the public water systems in Oregon use surface water solely or in part for their water supplies. Larger systems typically rely on surface water sources; and these larger systems serve approximately 75% of the population of the state. Consequently, the majority of Oregon's population may be at some risk for effects from cyanobacterial blooms in their drinking water sources.

Since 1996, the first year in which the Oregon Department of Human Services first evaluated cyanobacterial toxins in an Oregon lake, the agency has issued 15 public health warnings for nine different lakes and reservoirs throughout Oregon. There is no geographic pattern to the advisories, which suggests that it can happen anywhere in the state. The advisories typically warn against skin contact or ingestion of affected water by human beings or animals.

Cyanobacteria, also known as blue-green algae, are a large family of related organisms that may or may not secrete toxins. In Oregon two species known as Microcystis and Anabaena have been responsible for the toxin advisories, and appear to have received the most attention worldwide. Generally it is during significant

algal blooms that toxin levels rise and may become dangerous.

Factors in surface water that promote algal and bacterial growth and proliferation are warmer temperatures, calm weather and a good supply of nutrients for growth. Nitrogen and phosphorous contaminants are the primary nutrients that support algal blooms. There are natural sources of both of these nutrients in all watersheds. Human activities, wildlife, birds, domestic animals, lawn and crop fertilizers and human waste products all contribute to nitrogen enrichment of surface water. In many areas of Oregon there are sufficient natural phosphorus levels to support algal blooms, but additional phosphorus contamination comes from human activities as well.

Blooms usually occur during warm, still weather with bright sunlight. Typically blooms may occur anytime during late spring, summer or early fall seasons. A bloom can develop and dissipate in a few weeks' time, but some blooms may begin in early spring and continue well into the fall season. The longest period of sustained, potentially hazardous bloom documented to date in Oregon commenced in early June and continued into late November.

Several different toxins are produced by cyanobacteria. Microcystin, produced by Microcystis species, is a liver toxin, which can be absorbed through skin, through the lung and through the digestive tract. Anatoxin, produced by Anabaena species, is a neurotoxin, which damages the central nervous system and nerves. It too may be absorbed through skin, lungs and the digestive tract. Other cyanobacterial toxins exist and may, in time be recognized as potential hazards for Oregon water supplies.

There are currently no mandatory national or Oregon standards for cyanobacterial toxins in drinking water. A number of other nations and the World Health Organization require or recommend that microcystin toxin be limited to 1 microgram per liter of water. The recommended standard for anatoxin in drinking water is 3 micrograms per liter of water. Public health advisories that have been issued in Oregon are based on these recommended standards.

Limiting nutrient contamination of drinking water sources should be a primary objective in preventing blooms. The design and operation of impoundments can also greatly influence the behavior of algae and the production of toxins. Treatment of water for removal or reduction of toxins is also possible. Filtration of algae from water prior to disinfection is effective in reducing the release of toxin

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## Opportunity for Public Review and Comment

The Oregon Department of Human Services is preparing the 2005 annual grant application to the US Environmental Protection Agency for \$14,589,200. These funds along with a 20% state match (\$2,917,840) will be used to capitalize Oregon's Safe Drinking Water Revolving Loan Fund that finances drinking water system improvements needed to maintain or to return drinking water system to compliance with the Safe Drinking Water Act, and to provide technical assistance services to drinking water systems.

The 2005 Intended Use Plan is presented by the Drinking Water Program, Oregon Department of Human Services for a period of 30-days for public review and comment. The Department must receive written comments on or before, Thursday, September 30, 2004. Send comments to:

Roberto Reyes-Colon  
Drinking Water Program  
Department of Human Services  
800 NE Oregon Street, Suite 611  
Portland, Oregon 97232-2162  
Email: [roberto.reyes-colon@state.or.us](mailto:roberto.reyes-colon@state.or.us)  
Phone: (503) 731-4010, FAX: (503) 731-4077

## Cyanobacteria (Continued from Page 10)

from algal cells into the water, and subsequent chlorination appears to further reduce the level of free toxins in water.

Public water suppliers who rely solely or in part on surface water sources, particularly lakes or impoundments, should consider monitoring for cyanobacterial toxins during the summer season, especially if the water source has visible algal bloom activity. For testing services or for advice about how to do your own sampling of water, contact a reputable drinking water consultant or aquatic biology consultant. For assistance in interpreting test findings and for advice about treatment of water contact the Drinking Water Program.

### Additional Reading:

- 1) "Everything a Manager Should Know About Algal Toxins But Was Afraid to Ask" Judy Westrick. Journal American Water Works Association, Manager to Manager, pps. 26-34 (September 2003).
- 2) "Toxic Blue-Green Algae: Coming to a Neighborhood Near You?" Newcombe and Burch. Opflow, American Water Works Association, vol. 29, No 5 (May 2003).
- 3) Fact Sheet: Hazards from *Microcystis aeruginosa* in Fresh Water. DHS-Health Services, Environmental Toxicology Program. ([www.dhs.state.or.us/publichealth/esc/docs/mafact.cfm](http://www.dhs.state.or.us/publichealth/esc/docs/mafact.cfm))

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PERIODICALS  
POSTAGE  
PAID  
PORTLAND, OR

### TRAINING CALENDAR

**CEUs for Water System Operators**  
Check [www.oesac.com](http://www.oesac.com) for new offerings approved for drinking water

**Cross Connection/Backflow Courses**

Backflow Management Inc. (B)  
(503) 255-1619  
Clackamas Community College (C)  
(503) 657-6958 ext. 2388  
Oregon Assoc. of Water Utilities (O)  
(503) 873-8353

Backflow Assembly Tester Course  
Sept. 13-17 Oregon City (C)  
Oct. 11-15 Portland (B)

Backflow Assembly Tester Recertification  
Sept. 24 Oregon City (C)

Cross Connection Inspector Update  
Aug. 25 Redmond (O)

**Water System Training Course**

Department of Human Services  
Marsha Fox/(503) 731-4899  
September\* Klamath Falls, Bend  
October\* Newport, Dallas  
\* Dates to be announced

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