2023 training webinar

Drinking Water Cyanotoxin Monitoring (OAR 333-061-0510 to 333-061-0580)

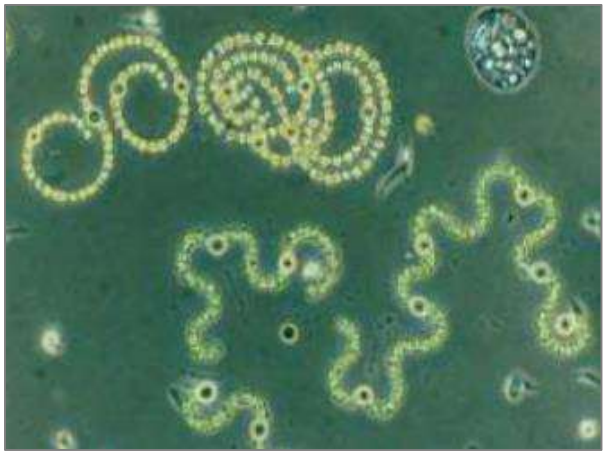
April 12, 2023

Nathan Reetz | Oregon Department of Environmental Quality

Gregg Baird | Oregon Health Authority

Housekeeping

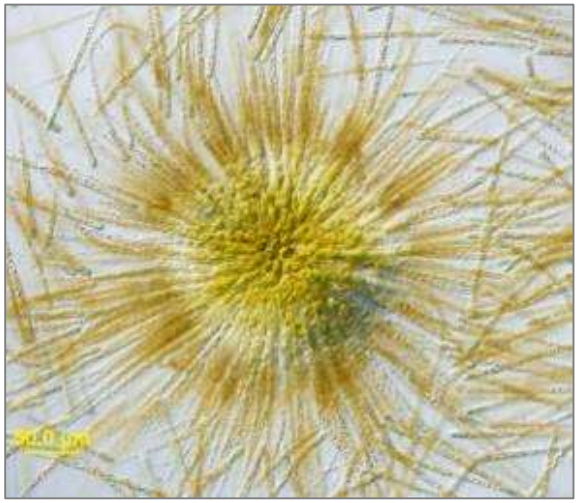
- Please let us know if you cannot hear, etc.
- Mute your phone/computer
- Ask questions in chat box
- This presentation is being recorded



Training Outline

- Cyanotoxins monitoring in Oregon drinking water **incl. recent rule revisions** - Gregg
  - OAR 333-061-0510 to 333-061-0580
- 2022 monitoring season recap – Nathan
- Updates to 2023 monitoring – Nathan
- Step-by-step guide to sampling - Nathan
  - Field collection
  - Shipping samples to DEQ
  - Lab analysis and reporting

Questions and Discussion - all



Who to contact

Oregon Health Authority roles:

- Drinking water safety
- OAR 333-061-0510
- Contact recreation safety
- Issue advisories

OHA is your go-to for questions about:

- **Drinking water rules**
- **Regulations**
- **Resources**

DEQ Laboratory roles:

- Provide lab support for OHA drinking water rule
- Coordinate with DW facility operators
- Provide training, supplies, shipping, lab analyses and report results to OHA

DEQ is your go-to for questions about:

- **Logistical issues (shipping, training, etc.)**
- **Sampling (schedule, protocol, etc.)**
- **Interpreting results**

Who to contact

OHA

Gregg Baird

503-936-1657 (cell)

New email: gregg.c.baird@oha.oregon.gov

DEQ Lab

Nathan Reetz

503-706-9572 (cell) | 503-693-5756 (office)

Nathan.REETZ@deq.oregon.gov

Health Advisory Levels

- Cyanotoxins monitored in Oregon: microcystins, cylindrospermopsin

Cyanotoxin	For Vulnerable People (ug/L or ppb)	For Anyone (ug/L or ppb)
Total Microcystins	0.3	1.6
Cylindrospermopsin	0.7	3

Health effects include: upset stomach, diarrhea, vomiting, long-term liver/kidney damage

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Cyanotoxins Rulemaking History

- Temporary rules – effective July 1, 2018
- Permanent rules – effective December 27, 2018
- Revised rules – effective February 1, 2023

Rule revisions: Trigger levels

- Raw water trigger levels for weekly raw/finished monitoring:
  - Lowers **microcystins** trigger level to **0.20 ug/L** (was 0.3 ug/L)
  - Sets **cylindrospermopsin** trigger level at 2 significant figures to **0.30 ug/L** (was 0.3 ug/L)

333-061-0540(1)(a) Cyanotoxin Monitoring

(B) If at any time ~~either~~ total microcystins concentration is detected at greater than or equal to 0.20 µg/L or cylindrospermopsin concentration ~~in raw water are~~ is detected at greater than or equal to 0.30 µg/L in raw water, or there is a recreational use health advisory in a water body upstream, water suppliers must immediately increase raw water monitoring of cyanotoxins to weekly.

(C) Water suppliers may resume raw water monitoring every two weeks if there is not a recreational use health advisory upstream and cyanotoxin levels are not detected or are less than 0.20 µg/L for total microcystins and 0.30 µg/L for cylindrospermopsin in at least two consecutive weekly samples.

Rule revisions: SAES kit equivalency

- Clarifies that using the SAES kit is considered equivalent within the method 546
- Allows a lower minimum reporting limit for microcystins

333-061-0550 Analytical Methods

(1) A water supplier must use a laboratory accredited according to OAR chapter 333, division 64 and the Oregon Environmental Laboratory Accreditation Program (ORELAP), or the Oregon Department of Environmental Quality Laboratory to analyze samples required by OAR 333-061-0510 to 333-061-0580.

(2) For total microcystins, a water supplier must ensure that samples are analyzed using EPA method 546, or another EPA-approved method that applies at the time samples are analyzed. The Eurofins Abraxis SAES ELISA kits (520011SAES) are equivalent to the ELISA kits (520011OH) discussed in Section 6.1 of EPA Method 546.

Rule revisions: Finished water results taken in response to raw water result over trigger level

- 0560(3): requires faster reporting of entry point results taken in response to raw water result over the trigger level
- Clarifies reporting of detections

(d) Laboratories must report any entry point analytical result taken in response to a raw water analytical result with a detection greater or equal to 0.20 µg/L for total microcystins or 0.30 µg/L for cylindrospermopsin to the Authority and the water supplier within one business day of validation;

(~~d~~e) Laboratories must report any analytical result with a detection greater or equal to 0.20 µg/L for total microcystins or 0.30 µg/L for cylindrospermopsin ~~cyanotoxins~~ to the Authority and the water supplier within one business day of validation;

(~~e~~f) Laboratories must report all other analytical results not detected or less than 0.20 µg/L for total microcystins or 0.30 µg/L for cylindrospermopsin to the Authority within 10 days of the end of the month the sample was collected; and

(~~f~~g) Analyses required by OAR 333-061-0540 must be uploaded by the laboratory to the Authority in an approved XML format or submitted in a format approved by the Authority.

Rule revisions: Sampling outside May to October window

- Requires any samples collected at any time from a compliance location during normal operations and analyzed by an accredited lab with an approved method to be reported.

(4) Samples collected at any time from the raw water sample point, entry point, or distribution system that are analyzed for cyanotoxins by an ORELAP-accredited lab or the Oregon Department of Environmental Quality Laboratory using the analysis methods in OAR 333-061-0550 must be reported per OAR 333-061-0560.

Rule revisions: Criteria to stop EP monitoring: MISTAKE!

- When a system is conducting EP monitoring, criteria to stop EP monitoring was inadvertently not revised. ☹ **Resources will reflect intent** and rules will be revised this year.

- Final rules (old rule):
  - (D) Water suppliers may cease entry point monitoring if the results from two consecutive samples of the raw water are less than **0.3 µg/L** and is not detected in two consecutive entry point or distribution samples.

- Intention:
  - (D) Water suppliers may cease entry point monitoring if the results from two consecutive samples of the raw water not detected or are less than **0.20 µg/L for total microcystins** and **0.30 µg/L for cylindrospermopsin** and cyanotoxins are not detected in two consecutive entry point or distribution samples.

Summary of rule revisions

- 333-061-540 Cyanotoxin Monitoring:
  - Lowered total microcystins trigger level to 0.20 ug/L (from 0.3 ug/L)
  - Changed cylindrospermopsin trigger level to 0.30 ug/L (from 0.3 ug/L)
- 333-061-0550 Analytical Methods:
  - Added language indicating that Eurofins Abraxis SAES kit is equivalent to standard kit mentioned in EPA Method 546
- 333-061-0560 Reporting:
  - Requires faster reporting of finished water results taken in response to raw water result over the trigger level
  - Requires samples collected outside the May to October monitoring season that otherwise meet the rules to be reported

Overview of cyanotoxin monitoring rules (incl. recent revisions)

Who is required to monitor?

- Sources deemed susceptible by OHA, DEQ
  - 60 sources (59 PWSs) currently meet the rule criteria for conducting routine monitoring ("susceptible source"):
- "Susceptible" means:
  - Source has had harmful algal blooms (HAB) or cyanotoxin detections in the past
  - Intake is downstream from a water body with past HAB or cyanotoxin detections
  - Source water on 303(d) list for limiting factors of algae and aquatic weeds
  - If OHA determines source is susceptible based on characteristics of the source

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Table 1. Public Water Systems (PWSs) susceptible to harmful algae blooms (HABs) and subject to OAR 333-061-0510 to 333-061-0580 for OHA-DWS Permanent Cyanotoxin Rules

version: March 8, 2022 , subject to change

Notes:

(1) Includes surface water intake and groundwater under the direct influence of surface water (GWUDI) sources. Systems that purchase water from wholesale providers (*) can be identified in OHA's Data Online for each individual PWS.

(2) System Type: C = Community; NTNC = Non-Transient Non-Community; NC=Transient Non-Community; OVS= Oregon Very Small system

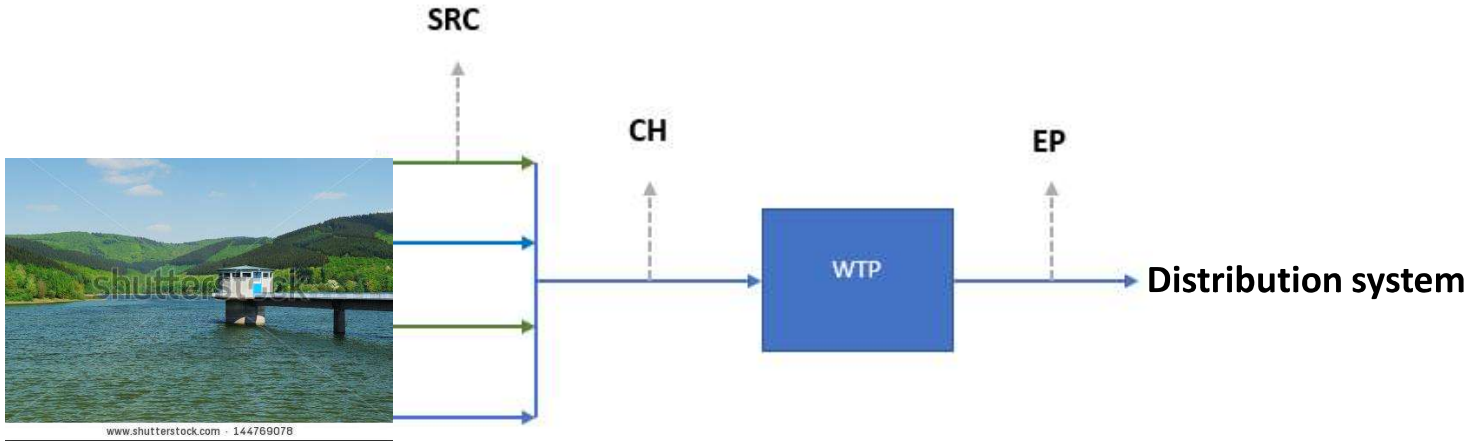
(3) Previous HAB Detection or Advisory based on Recreational HABs from OHA, 2011, updated with data from OHA Recreational HAB Website for 2012-2021; Previous cyanotoxin detections based on 2018 or earlier PWS or watershed data.

(4) DEQ Water Quality Limited (WQL) listing indicates the waterbody is impaired and needs a Total Maximum Daily Load to calculate amount of pollutant a water body can receive and still meet Oregon water quality standards. Based on Category 4 and 5 listings in most recent OR DEQ Integrated Report and 303(d) list (2018/2020 approved by EPA Nov 12, 2020). Note that DEQ's Intergrated Report methodology for Aquatic Weeds and Algae includes 303(d) water quality limited listings for Harmful Algal Blooms, Aquatic Weeds, Chlorophyll-a or Excess Algal Growth.

(5) GU - Groundwater under the direct influence of surface water - refers to a groundwater source that is located close enough to nearby surface water (e.g., a river or lake) to receive direct surface water recharge. Since a portion of the groundwater source's recharge is from surface water, the groundwater source is considered at risk of contamination from pathogens and viruses that are not normally found in true groundwaters and the water source is subject to the surface water treatment rule.

PWS ID#	PWS Name [1]	Drinking Water Source	County	System Type [2]	Population Served	"Susceptible" Water Source (OAR 333-061-0510 (2)) risk criteria/factors identified in the Drinking Water Source Area		
						Previous Documented HAB or Cyanotoxin Detection [3] OAR 333-061-0510 (2a and 2c)	DEQ Water Quality Limited (WQL) listing for algae and aquatic weeds [4] OAR 333-061-0510 (2b and 2c)	Other Criteria OAR 333-061-0510 (2d)
Susceptible Water Source per OAR 333-061-0510 (2)								
OR4100012	Albany, City of (*)	Santiam River	Linn	C	54,945	X	X	
OR4101483	Angler's Cove/SCHWC	Rogue River	Jackson	C	80	X	X	
OR4100047	Ashland Water Department	Ashland Creek	Jackson	C	20,700	X		
OR4101174	Buell-Red Prairie Water District	Gooseneck Creek	Polk	C	788	X		
OR4191786	Camp Baker BSA	Infiltration Gallery (Silcoos Lake)	Lane	NC	75	X	X	
OR4100157	Canby Utility	Common header for Molalla River, IG and Springs Gallery	Clackamas	C	16,866	X		
OR4100187	Clackamas River Water - Clackamas (*)	Clackamas River	Clackamas	C	41,338	X	X	

Sampling locations



- **SRC** = Source, from intake prior to any treatment (“raw” water)
- **CH** = Common header; after all sources combine, as it enters the treatment plant (also “raw” water)
- **EP** = Entry point to the distribution, representing treated or finished water
- **Distribution system** = sample at representative distribution locations

Monitoring requirements

- Raw water monitoring **every 2 weeks** (May to October)
- If recreational HAB advisory upstream, raw water **weekly**
- If raw water microcystins ≥ 0.20 ug/L or cylindrospermopsin ≥ 0.30 ug/L , raw and finished water **weekly**
- If toxins detected in the finished water, finished water **daily**
- If > Health Advisory Levels (HAL) in finished water:
  - Confirmation sample asap
  - If confirmation > HAL = issue a Do-Not-Drink advisory

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Cyanotoxin Monitoring Requirements

For Sources Determined to be Susceptible

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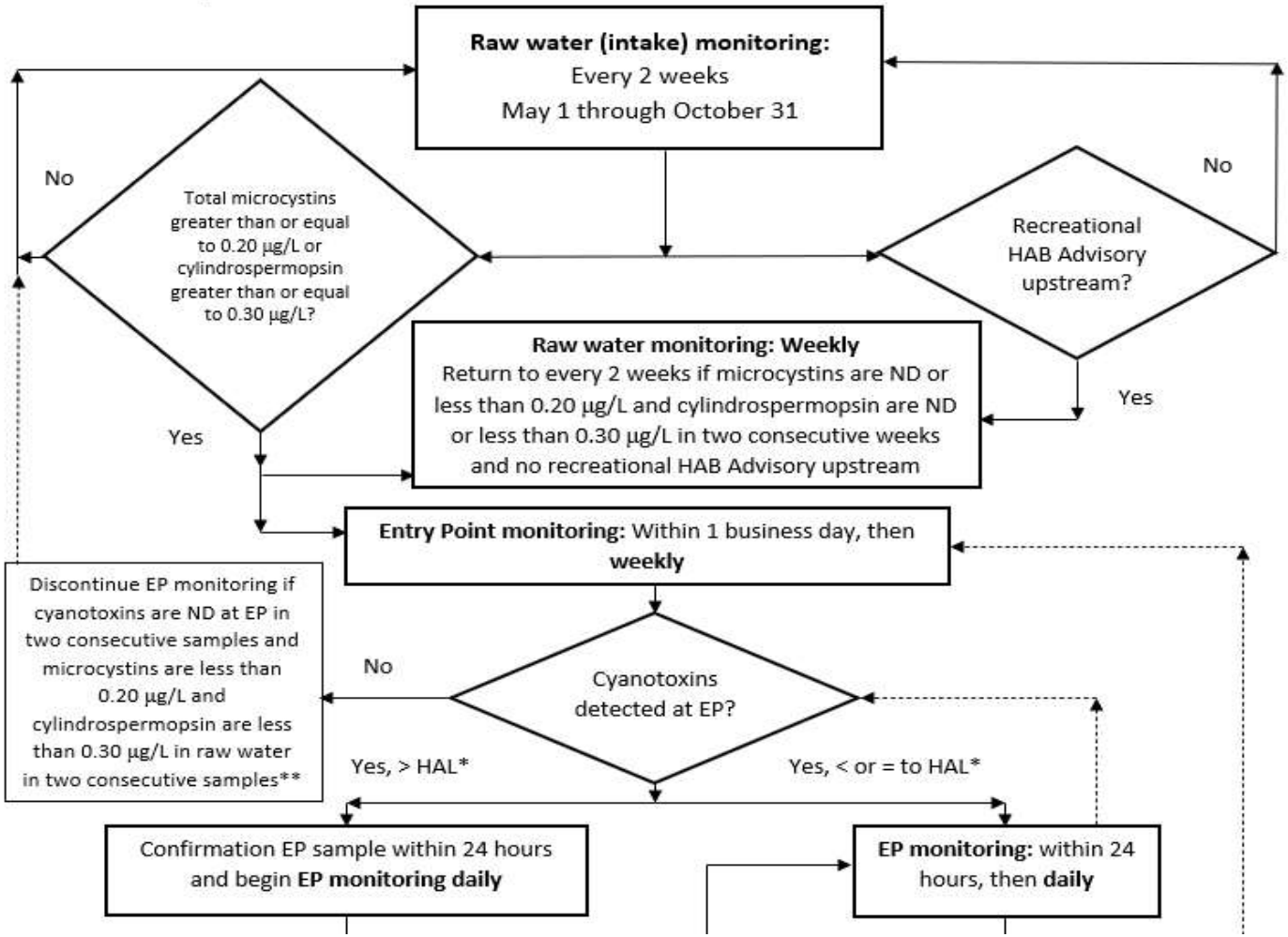
February 2023



Public Notification & Advisories

- Health Advisory if confirmed > HAL
  - PWS and any purchasers
  - Press release
  - If advisory is delayed with OHA approval (rare), PWS must issue press release stating results but no advisory
- To lift advisory:
  - 2 daily samples at EP < or = HAL and
  - Distribution samples < or = HAL for 2 days
- Must publish EP & DIST detections in annual CCR

Reporting results

- PWS must ensure labs analyze and report results > HAL within 2 business days
- Finished water samples taken in response to raw water detection over the trigger must be reported within 1 business day
- Finished water samples > HAL must be reported to OHA & purchasers within 24 hrs
- Confirmation samples > HAL must be reported to OHA & purchasers within 8 hrs
- Report results to lift an advisory to OHA within one business day
- Report all other results to OHA by 10th of following month

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Purchasing water systems

- **No routine sampling required**
  - Purchasers only monitor if under an advisory (in order to lift the advisory)

- Seller must notify purchasers within **24 hours** of initial finished water sample over HAL ("heads up")
- Seller must notify purchasers within **8 hours** if confirmation is over HAL (joint advisory issued)

Cyanotoxins sample results

Viewable on OHA Data Online webpage: https://yourwater.oregon.gov/

Cyanotoxin Sample Results

Regulating Agency: All Agencies | County: All Counties

Sample Location: Distribution system; Entry point (finished water); Source (raw water); Common header (raw water)

Data Results: All results; All detections; Exceedances only (entry points and distribution)

Sample Date Range: From 1/1/2022 to 12/31/22

Update Search Results | Reset Form | Export to Excel | Show Laboratory Information

Health Advisory Levels (for entry points and distribution)

- Total Microcystins: 0.3 ug/L for vulnerable people; 1.6 ug/L for everyone.
- Cylindrospermopsin: 0.7 ug/L for vulnerable people; 3 ug/L for everyone.

Health advisory level exceedances in entry point and distribution samples are indicated with red text.

ND = Not detected at the minimum reporting level; -- = Not sampled

39 results found for selected criteria.

Cyanotoxin Sample Results- All sample locations - Detections only

Regulating Agency	County Served	PWS	PWS Name	Sample Date	Received Date	Source ID	Source Name	Total Microcystins (ug/L)	Cylindrospermopsin (ug/L)
REGION 2	Josephine	90186	JOSEPHINE CO PKS LAKE SELMAC 1	11/21/22	11/29/22	SRC-AA	LAKE SELMAC	0.14	ND
REGION 2	Josephine	94645	JOSEPHINE CO PKS LAKE SELMAC 2	11/14/22	11/17/22	SRC-AA	LAKE SELMAC	0.24	ND
REGION 2	Josephine	90186	JOSEPHINE CO PKS LAKE SELMAC 1	11/08/22	11/10/22	SRC-AA	LAKE SELMAC	0.26	ND
REGION 2	Josephine	94645	JOSEPHINE CO PKS LAKE SELMAC 2	11/08/22	11/10/22	SRC-AA	LAKE SELMAC	0.22	ND
REGION 1	Polk	01174	BUELL-RED PRAIRIE WD	11/01/22	11/04/22	SRC-AA	GOOSENECK CREEK	0.18	--
REGION 2	Josephine	90186	JOSEPHINE CO PKS LAKE SELMAC 1	10/31/22	11/04/22	SRC-AA	LAKE SELMAC	0.39	--
REGION 2	Josephine	94645	JOSEPHINE CO PKS LAKE SELMAC 2	10/31/22	11/04/22	SRC-AA	LAKE SELMAC	0.28	--
REGION 2	Josephine	90186	JOSEPHINE CO PKS LAKE SELMAC 1	10/25/22	10/28/22	SRC-AA	LAKE SELMAC	0.95	ND
REGION 2	Josephine	94645	JOSEPHINE CO PKS LAKE SELMAC 2	10/25/22	10/28/22	SRC-AA	LAKE SELMAC	0.44	ND
REGION 2	Lane	00246	CRESWELL, CITY OF	10/24/22	10/28/22	SRC-BK	WILLAMETTE RIVER (COAST FORK)	0.13	ND
REGION 1	Polk	01174	BUELL-RED PRAIRIE WD	10/17/22	10/20/22	SRC-AA	GOOSENECK CREEK	0.21	ND
REGION 2	Lane	00236	COTTAGE GROVE, CITY OF	10/17/22	10/20/22	SRC-BA	ROW RIVER	0.18	ND
REGION 2	Josephine	90186	JOSEPHINE CO PKS LAKE SELMAC 1	10/17/22	10/20/22	SRC-AA	LAKE SELMAC	0.45	ND
REGION 2	Josephine	94645	JOSEPHINE CO PKS LAKE SELMAC 2	10/17/22	10/20/22	SRC-AA	LAKE SELMAC	0.34	ND
REGION 2	Lane	00246	CRESWELL, CITY OF	10/10/22	10/13/22	SRC-BK	WILLAMETTE RIVER (COAST FORK)	0.22	ND
REGION 2	Josephine	90186	JOSEPHINE CO PKS LAKE SELMAC 1	10/10/22	10/13/22	SRC-AA	LAKE SELMAC	0.7	ND
REGION 2	Josephine	94645	JOSEPHINE CO PKS LAKE SELMAC 2	10/10/22	10/13/22	SRC-AA	LAKE SELMAC	0.59	ND

Bipartisan Infrastructure Law (BIL) – Emerging Contaminants Funding

- BIL provides **grants** through the State Revolving Fund for reducing exposure to PFAS or other emerging contaminants in drinking water
- Can be used by water systems with EC detections to provide treatment, develop a new source, or connect to another public water system
- 25% of funds must go to disadvantaged communities
  - Defined as having an MHI below the state median household income
- Covers planning, design, and construction costs
- Set-asides can be used for administration of the funds or additional testing.
- No state match is required
- Oregon's annual allotment for next 5 years: $9,940,000
- ***Cyanotoxins-related projects are eligible for funding!!!***

www.healthoregon.org/dwcyanotoxins

Cyanotoxin Resources for Drinking Water

- Drinking Water Services
- Water System Operations
- Surface Water Treatment
- Capacity Development
- Public Notice Templates and Resources
- Fact Sheets & Best Management Practices
- Water System Surveys & Outstanding Performance
- Circuit Rider Program
- ePipeline Newsletter
- Emerging Contaminants in Drinking Water
- Per - and Polyfluoroalkyl Substances (PFAS)
- Contact Us

Rules for Cyanotoxin Monitoring in Drinking Water

Oregon Health Authority (OHA) has developed regulations that require drinking water systems using surface water sources susceptible to harmful algae blooms to routinely test for two cyanotoxins that these blooms produce and notify the public about the test results.

The rules apply to the two cyanotoxins with a health advisory level established by EPA. These are for total microcystins and cylindrospermopsin, at the levels shown in the table below.

Cyanotoxin	For Vulnerable People (ug/L or ppb)	For Anyone (ug/l or ppb)
Total Microcystins	0.3	1.6
Cylindrospermopsin	0.7	3

These rules are effective starting December 27, 2018 and replace temporary administrative rules adopted for cyanotoxin monitoring and testing that were effective July 1, 2018 through December 27, 2018.

OHA is encouraging water systems not subject to the cyanotoxin monitoring rules that serve surface water and have had algae issues in the past to voluntarily test for cyanotoxins and notify the public about the results. If analysis is performed for anatoxin-a or saxitoxins and found in the raw or finished water, please contact OHA-Drinking Water Services for guidance and recommendations.

Rules Resources

- Rules for Cyanotoxin Monitoring for Public Water Systems - *Revised rules effective February 1, 2023*
- List of Susceptible Sources required to monitor for cyanotoxins - *March 8, 2022, subject to change*
- Cyanotoxin Monitoring Flowchart - *Updated February 2023*
- Cyanotoxin Rules Fact Sheet - *Updated February 2023*
- Cyanotoxin Sampling DEQ & OHA Presentation from 4/20/22 (webinar recording from 4/20/22)
- Cyanotoxin Health Advisory for Vulnerable People Frequently Asked Questions
- Cyanotoxin Health Advisory for All Consumers Frequently Asked Questions
- Guidance for Health Care Providers and Facilities Frequently Asked Questions

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What you can do now

- Understand monitoring requirements, including if detections are found
- Determine potential distribution sampling sites
- Evaluate best treatment optimization steps if needed
- Update contact lists (internal, purchasers, state)
- Know where to get public notice templates and resources

Take away messages

- Public needs to know if they are at risk, even without federal regulation
  - Report as soon as possible
- Testing water only way to know for sure
- Tell people what you know when you know it

- Establish relationships with local stakeholders & agencies to mitigate risk
  - How to reach vulnerable populations
  - Where to obtain water hauling trucks
  - Messaging plans

Consider treatment options if your system is at risk

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Summary of 2022 monitoring results

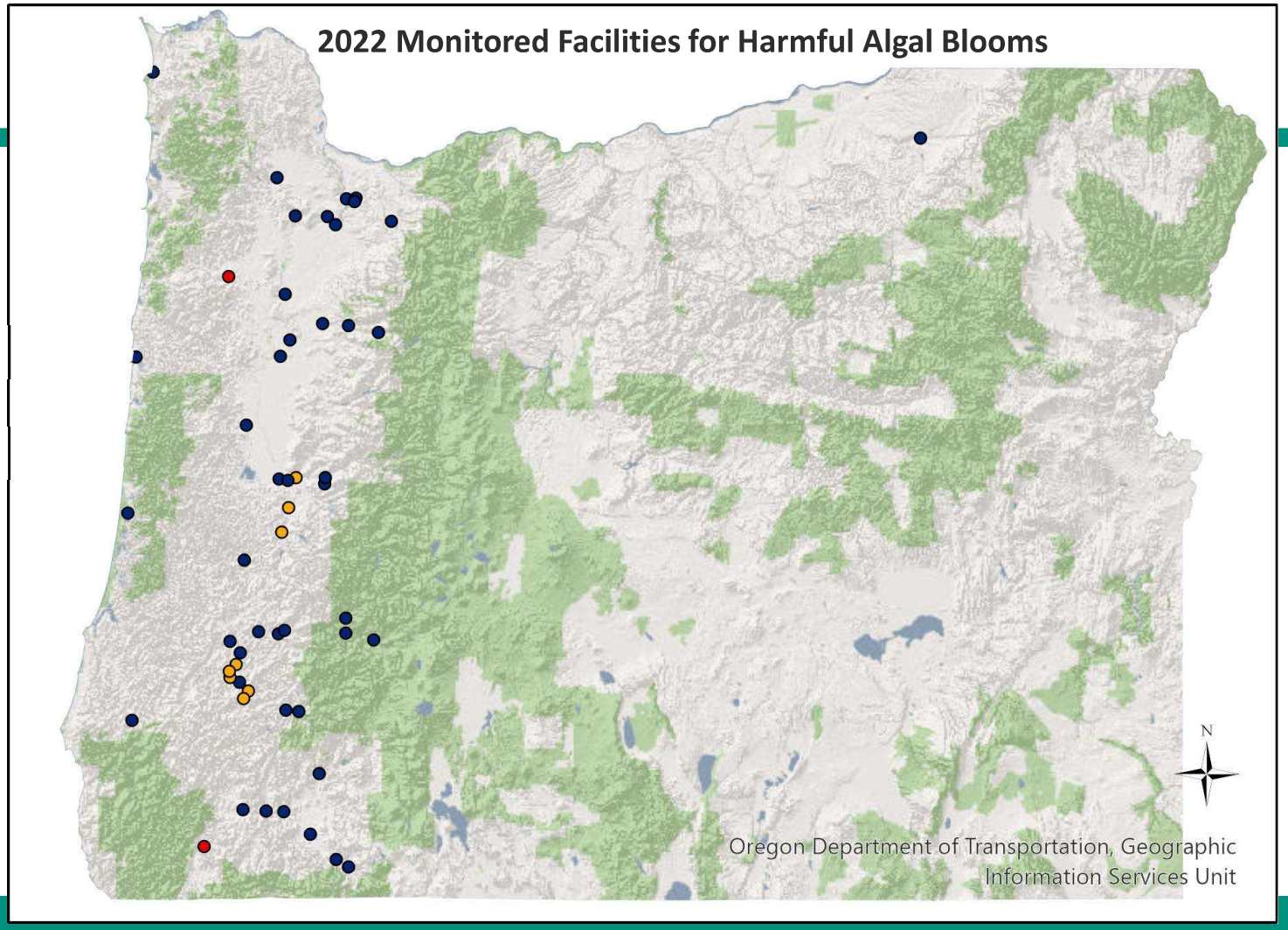
- 2022: 5th year of monitoring since rules adopted
- 39 raw water microcystins detections at 10 PWSs (about average)
- 0 raw water cylindrospermopsin detections

- 24 of 39 total microcystins detections were at 2 PWSs:
  - Josephine County Pks Lake Selmac 1 & 2.
  - Buell-Red Prairie in Polk County had the next highest number of raw water detections at 6.

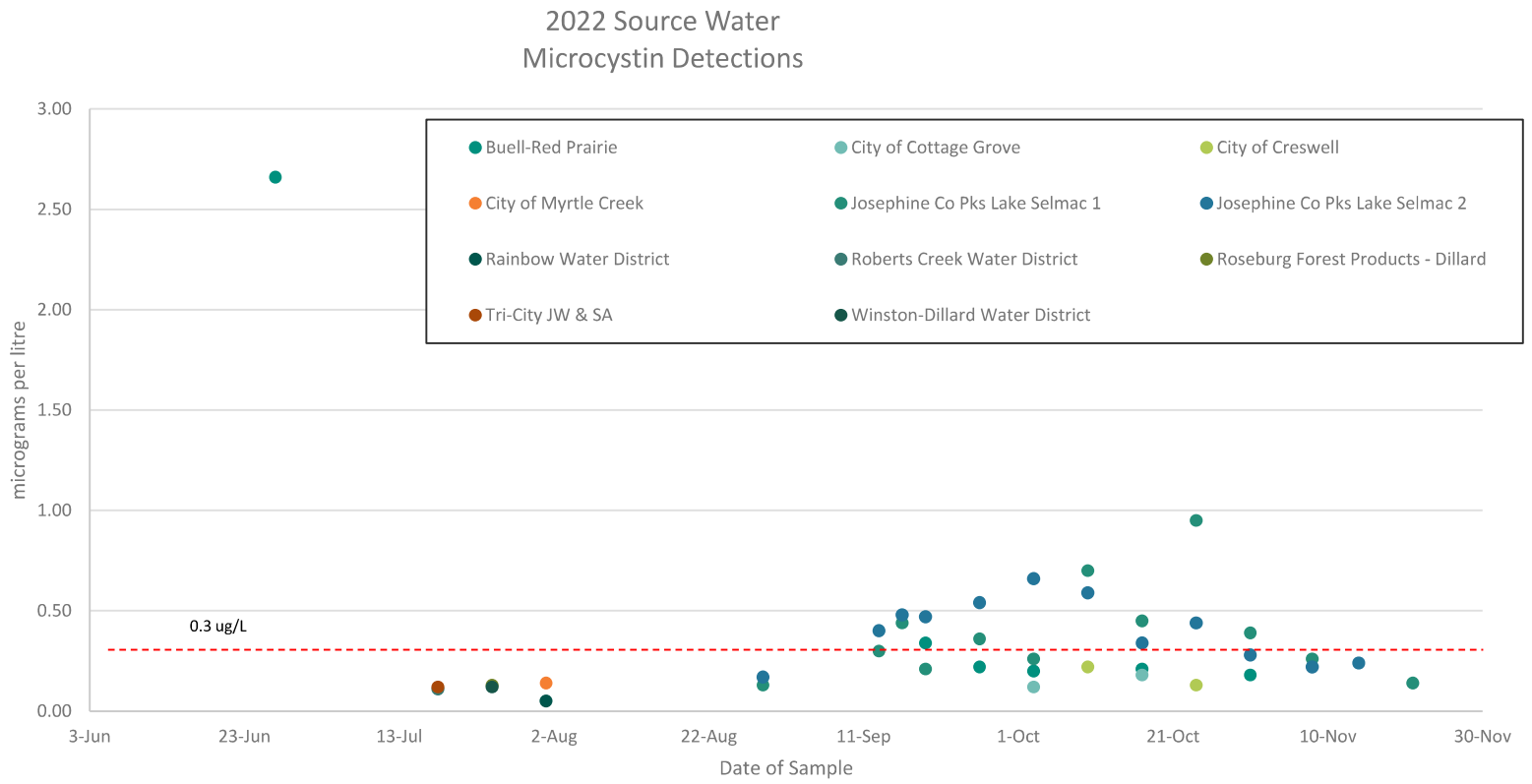
- 3 PWSs had raw water detections high enough to be triggered into finished water monitoring this year;
  - *No finished water detections since the rules were implemented in 2018*

Summary of 2022 monitoring results (cont.)

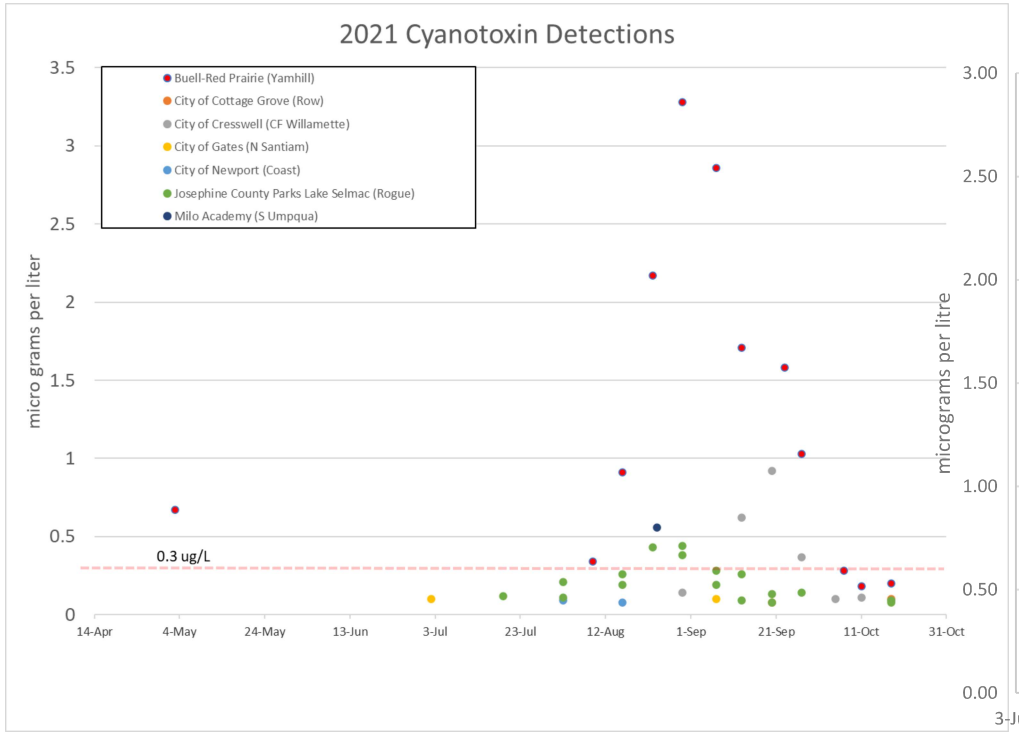
- Mid to late July blip: microcystins detected at 5 PWSs on the South Umpqua River in Douglas County (first time).
  - 1 detection at each PWS during that time period.
- October blip: microcystins detected at 2 PWSs in the mid-Willamette Valley (Cottage Grove and Creswell) with 4 detections total.
- No detections on the North Santiam River (unusual)
- Overall, 2022 was a quieter season than expected.
- Anticipated seeing increased bloom frequency and intensity and increased cyanotoxins detections in 2021 and 2022 due to increased nutrients being flushed into surface water sources after the 2020 wildfires, but we just haven't seen that.

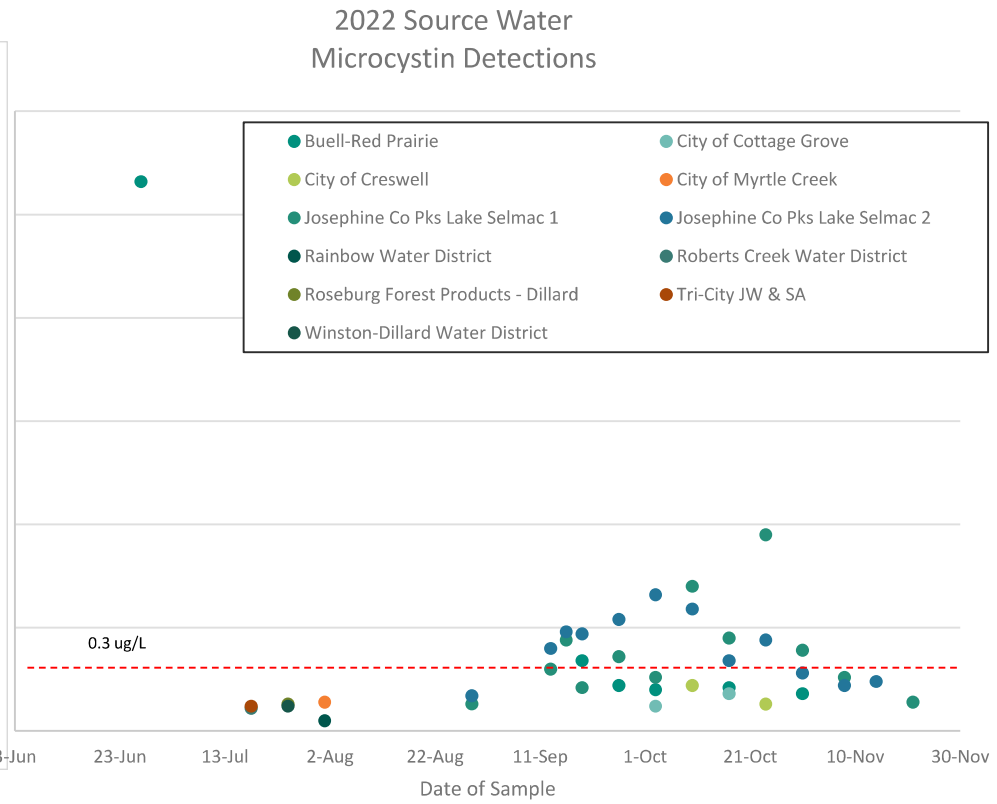

2022 Monitored Facilities for Harmful Algal Blooms
No Detections
Detections < 0.3 ug/L
Detections ≥ 0.3 ug/L
N
Oregon Department of Transportation, Geographic Information Services Unit

2022 – Drinking Water Monitoring



2021 vs. 2022


2021 Cyanotoxin Detections
Buell-Red Prairie (Yamhill)
City of Cottage Grove (Row)
City of Cresswell (CF Willamette)
City of Gates (N Santiam)
City of Newport (Coast)
Josephine County Parks Lake Selmac (Rogue)
Milo Academy (S Umpqua)
micro grams per liter
micrograms per litre
0.3 ug/L
3.5
3
2.5
2
1.5
1
0.5
0
3.00
2.50
2.00
1.50
1.00
0.50
0.00
14-Apr
4-May
24-May
13-Jun
3-Jul
23-Jul
12-Aug
1-Sep
21-Sep
11-Oct
31-Oct


2022 Source Water
Microcystin Detections
Buell-Red Prairie
City of Cottage Grove
City of Creswell
City of Myrtle Creek
Josephine Co Pks Lake Selmac 1
Josephine Co Pks Lake Selmac 2
Rainbow Water District
Roberts Creek Water District
Roseburg Forest Products - Dillard
Tri-City JW & SA
Winston-Dillard Water District
0.3 ug/L
3-Jun
23-Jun
13-Jul
2-Aug
22-Aug
11-Sep
1-Oct
21-Oct
10-Nov
30-Nov
Date of Sample

2023 sampling schedule and collection instructions

Week #	Group A	Group B	Notes
1	5/1/2023		
2		5/8/2023	
3	5/15/2023		
4		5/22/2023	
5	**5/30/2023**		Memorial Day – sample on Tuesday, 5/30/2023
6		6/5/2023	
7	6/12/2023		
8		**6/20/2023**	Juneteenth – Sample Tuesday, 6/20/2023
9	6/26/2023		
10		**7/5/2023**	Independence Day – sample on Wednesday, 7/5/2022
11	7/10/2023		
12		7/17/2023	
13	7/24/2023		
14		7/31/2023	
15	8/7/2023		
16		8/14/2023	
17	8/21/2023		
18		8/28/2023	
19	**9/5/2023**		Labor Day – sample on Tuesday, 9/5/2023
20		9/11/2023	
21	9/18/2023		
22		9/25/2023	
23	10/2/2023		
24		10/09/2023	
25	10/16/2023		
26		10/23/2023	
27	10/30/2023		

Sampling protocol - cyanotoxins

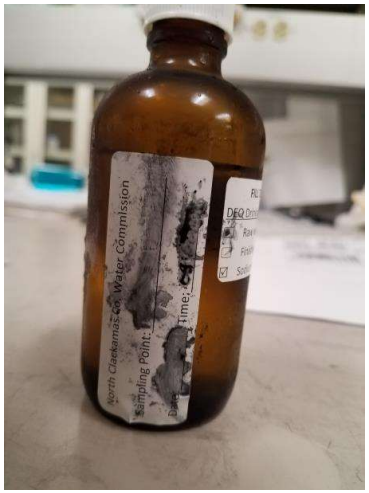
Unpack box and inspect kits. Each box will contain the following:

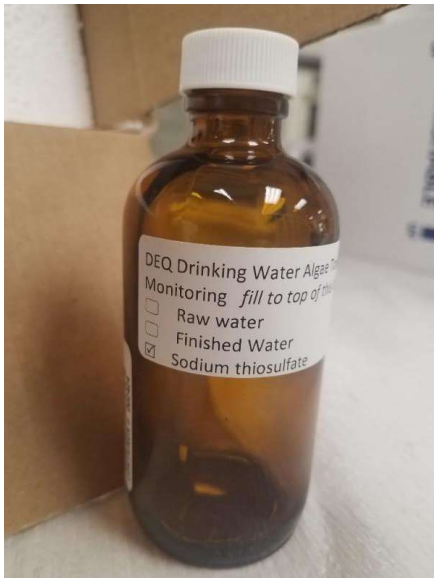
- 8 coolers in cardboard boxes
- 32 ice packs (4/cooler) – **freeze these before collecting samples!**
- 8 Amber Glass 125mL bottles
- 8 bubble bags (1/glass bottle)
- 8 lab paperwork packets (1/cooler)
- 8 prepaid UPS return labels

Labeling bottles

Check appropriate water type

- "Raw water" = SRC or CH
- "Finished water" = EP
  - You will only collect EP sample if requested by DEQ





OR4101174

Buell-Red Prairie Water Association

Sampling Point: PWS01174:SRC-AA

Date: 5/3/2021 Time: 1105

"Sampling Point" should exactly match ID on COC

Additional samples – by request only

- Weekly raw water (source or common header) samples
- Weekly finished water (entry point) samples

Oregon Department of Environmental Quality Chain of Custody Record

Office use Only
Affix Work Order Barcode Here

Qtime:_____ Survey:_____

Facility: Salem Public Works - OR4100731
Address: 1410 20TH ST SE BLDG 2
Salem OR 97302
Facility Contact: Dwayne Barnes **Facility Phone:** (503) 588-6483

Sample Collector (s):_____

Sampling Agency:_____ **DEQ Contact:** **Alison Minerovic**

Sample Information

Item	Sampling Point ID	Water Facility State Code	Source or Finished water (Circle one)	Sample Collection Date and time	Collection Address (if in Distribution)	Comments
	PWS00731:SRC-AA	Not Applicable	Source Water		North Santiam River I.G.	
			S F			
			S F			
			S F			

Relinquished By:	Agency/Company	Date/Time	Received By:	Agency/Company	Date/Time

Sample Receipt Checklist *Office Use Only*

Yes No Sampled Same Day?
Yes No Cooler Contained Ice?
Yes No Samples collected in the appropriate containers?
Yes No Sample containers clearly and properly labeled?
Yes No Samples received intact and without damage?
Yes No Sample volumes sufficient for requested analyses?
Yes No All samples received within their holding times?

Temperature Check (IR/Sample):_____C

Yes No Sample preservation checked at time of sample receipt?
Yes No If yes were all samples properly preserved?
Yes No COC form properly signed?

Sample Receipt Comments

_____

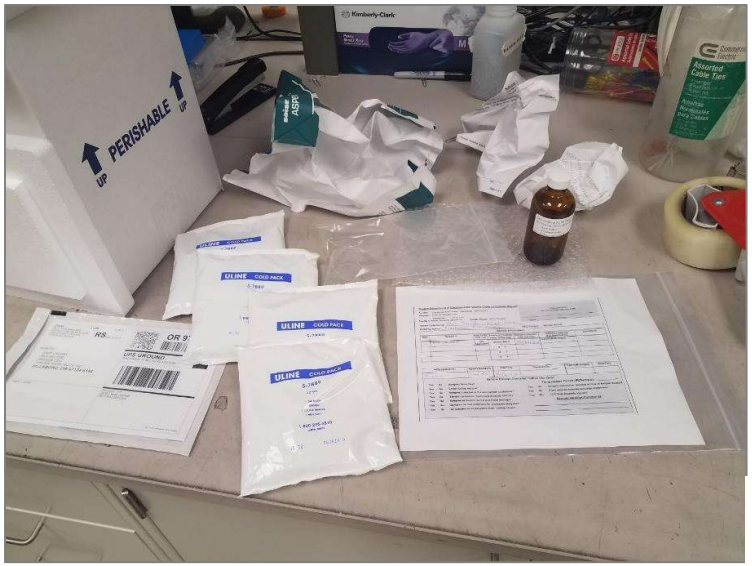
_____

Oregon Health Authority

DEQ

Packing and shipping to DEQ Lab

- Pack 4 frozen ice packs/cooler
- Double-check bottle labels. Are they both complete, labeled correctly?
- Double-check COC form(s). Are they circled, signed, dated?
- Wrap glass bottles in bubble packs
- Place lab COC(s) in Ziploc bag
- Fill empty space with packing material



Notes about shipping

- Labels are prepaid; each may only be used once (do not photocopy)
- No sample receiving on Saturdays, Sundays, holidays
- Double-check shipping drop-off times
  - Next-day delivery to Hillsboro

Invalid samples

- Too warm (>10° C)
  - Freeze ice packs early
- Too old (>48 hours after collection)
  - Ship ASAP after sampling
- Broken/leaking bottle
  - Check for broken bottles upon receipt
  - Pack in bubble packs carefully
  - Make sure lid is tightened

Invalid samples cannot be analyzed. You will need to resample

Reporting results

- Data management software automatically emails results
- Nathan will call facility contacts if extra sampling required (>trigger)
  - Thursday or Friday
- Nathan will email OHA with results >trigger
  - Thursday or Friday
- All results will be uploaded to OHA data repository weekly
  - Friday afternoon

Lab methods

- Samples must be analyzed by an accredited lab
  - DEQ lab is accredited
  - Please contact Nathan if not using DEQ lab
- Analyze using following methods:

Toxin	Screening method	Confirmation
Total Microcystins	EPA method 546 (ELISA)	n/a
Cylindrospermopsin	OR DEQ 18-LAB-0050 (ELISA)	EPA method 545 (LC MS/MS)

Additional lab analyses

- DEQ Lab can analyze additional samples for a fee
  - Expired IGAs renewed until 2024 (contact Nathan if you are unsure)
  - Cost depends on sample load. OHA samples are priority

Contact Nathan if you are interested in additional sampling

Questions?

OHA

Gregg Baird

503-936-1657 (cell)

New email: gregg.c.baird@oha.oregon.gov

DEQ Lab

DEQ Lab

Nathan Reetz

503-706-9572 (cell) | 503-693-5756 (office)

Nathan.REETZ@deq.oregon.gov