



# Region 10 HABs Update for Oregon Lakes Association March 8, 2024

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R10 HABs Coordinator

*The views expressed are those of the author and not necessarily those of EPA and mention of products or services does not constitute an endorsement*

# EPA Region 10 HABs Program Overview

EPA R10 – AK, ID, OR, WA and 271 Tribal Nations.

Two Central POCs in Region 10 - HABs coordinator for national programmatic work and regional ambient waters program; and drinking water treatment lead.

Focus on regional research topics, prevention, management and response to events

1 state has drinking water rules in place for cyanotoxins (OR);  
3 states have HAB programs for freshwaters (ID, OR, WA) ;  
3 states have HAB programs for commercial shellfish (AK, OR, WA);  
2 states have HAB programs for recreational shellfish (OR, WA)

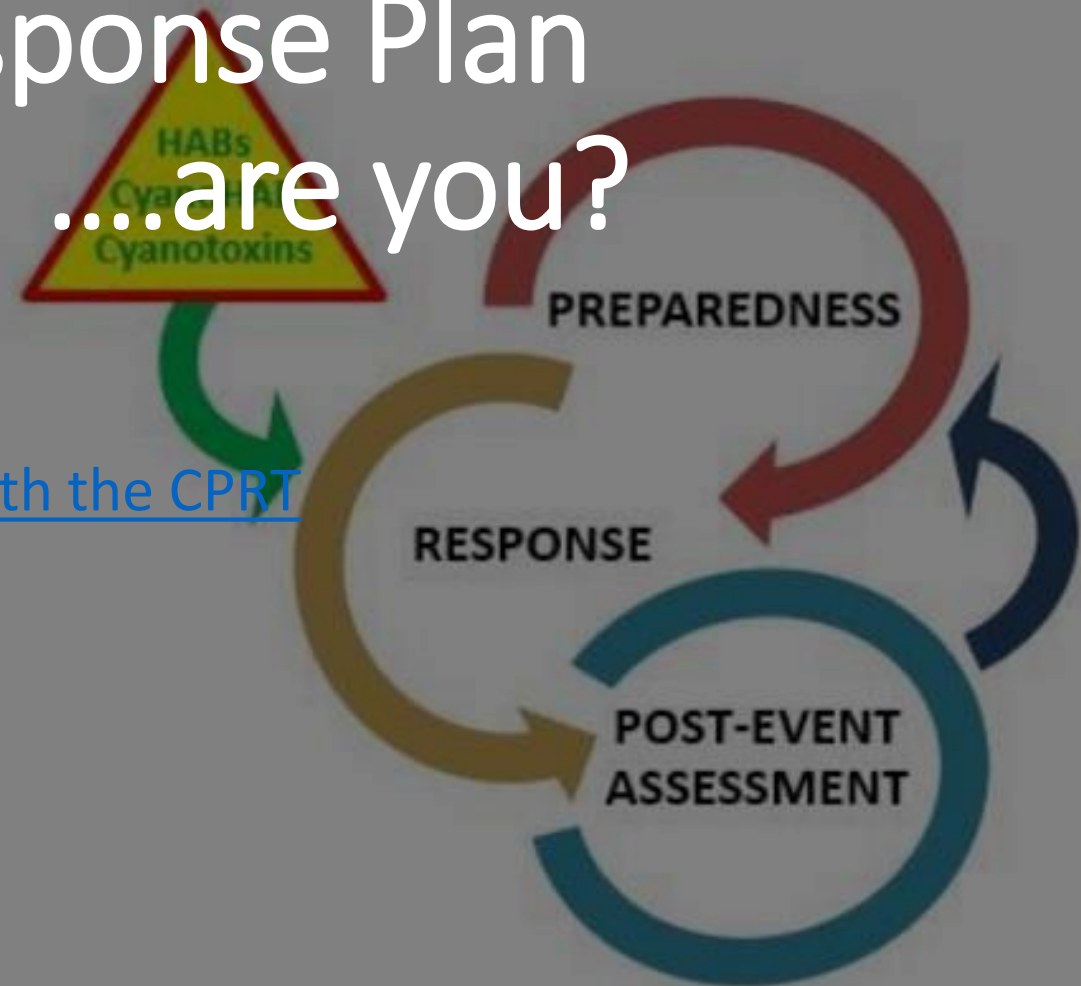
# Cyanotoxins Preparedness and Response Toolkit

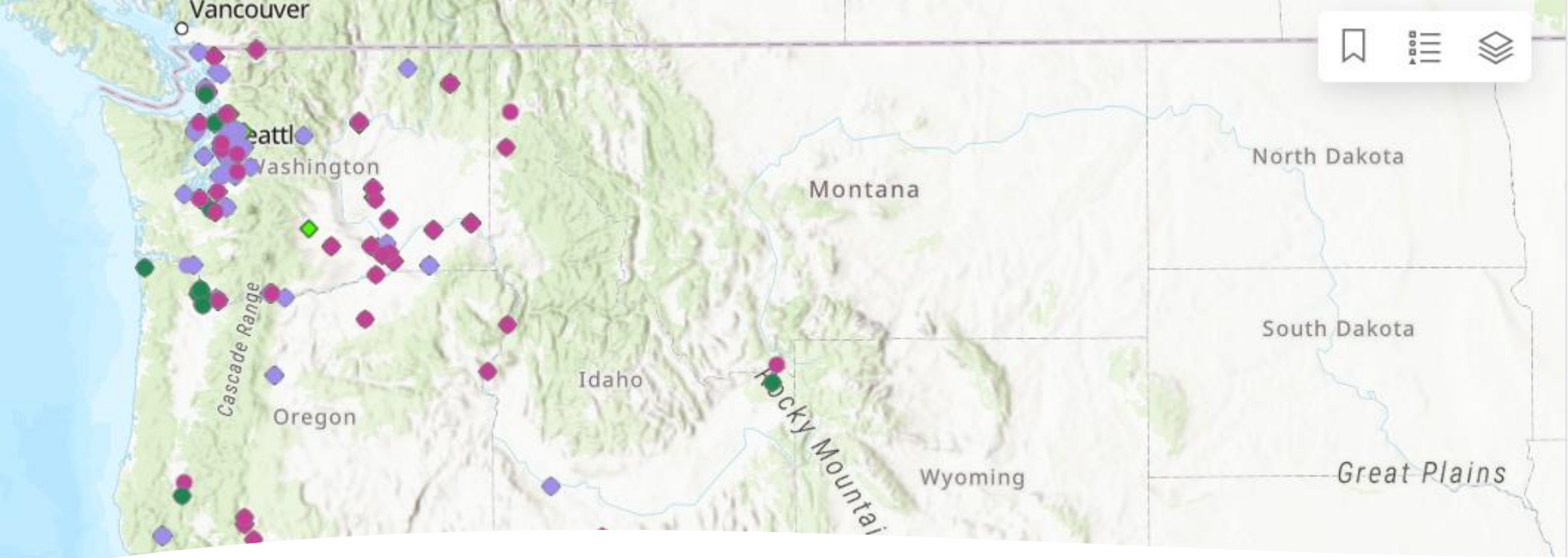
EPA Region 10 is Updating our  
HABs Response Plan

...are you?

*Preparedness and Response Toolkit (CPRT)* is a resource that helps states, tribes and tribes prepare for potential HABs in drinking and recreational waters, and to update their response for future cyanotoxin events. EPA's [National Response Framework \(NRF\)](#), a framework built on the Department of Homeland Security's [Incident Management System \(NIMS\)](#). As such, the CPRT is a critical component to prevent and respond to cyanotoxin events in drinking and recreational waters, and to update their response for future cyanotoxin events. [Preparedness and Response Toolkit \(pdf\)](#). (May 2021,

[Start with the CPRT](#)





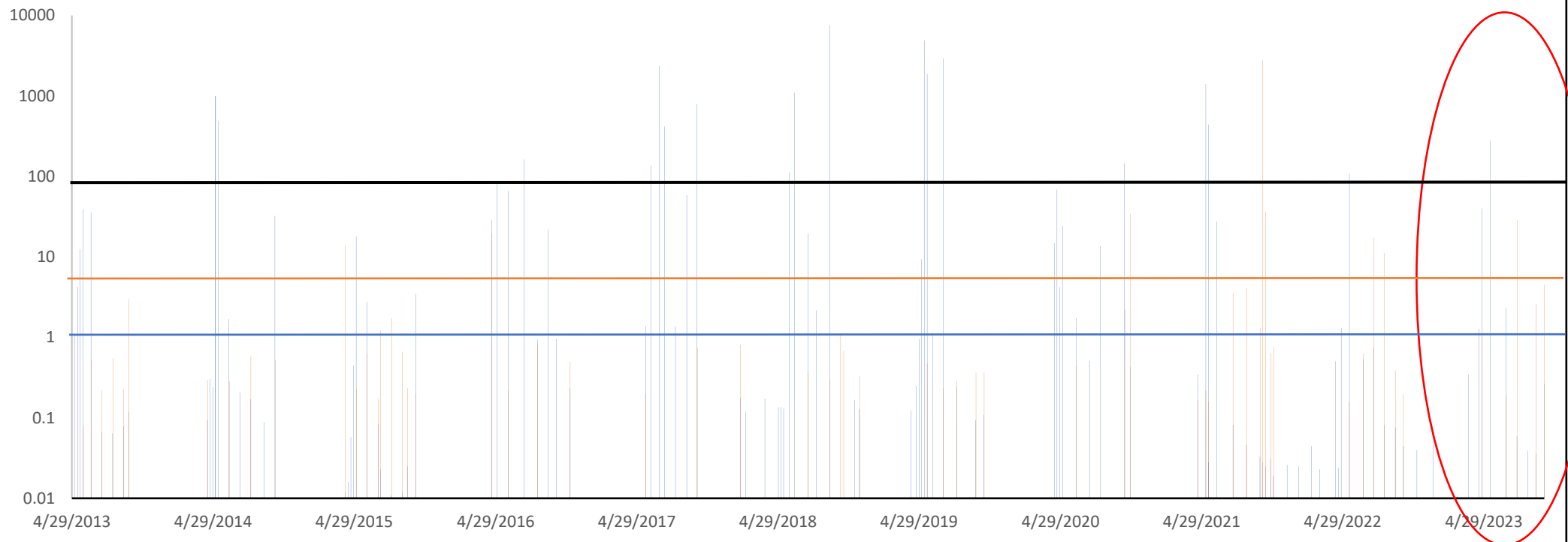
# R10 2023 HABs in Review

Grand Total for 2023: 62 recreational advisories identified and over 150 detections. No known drinking water advisories.



# Anatoxin-a and Microcystins Anderson Lake, WA

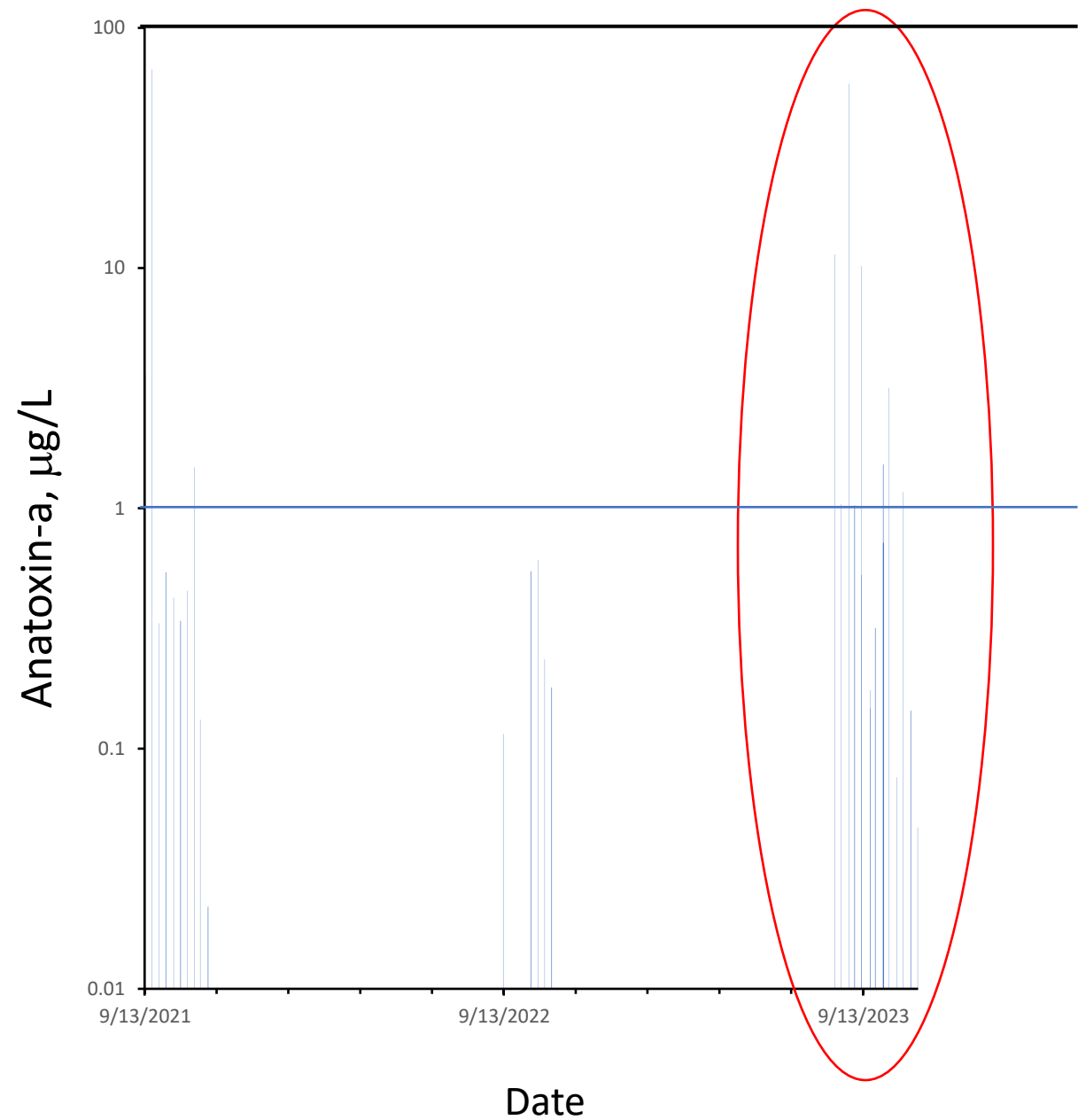
Anatoxin-a in blue, mcs in orange,  $\mu\text{g/L}$



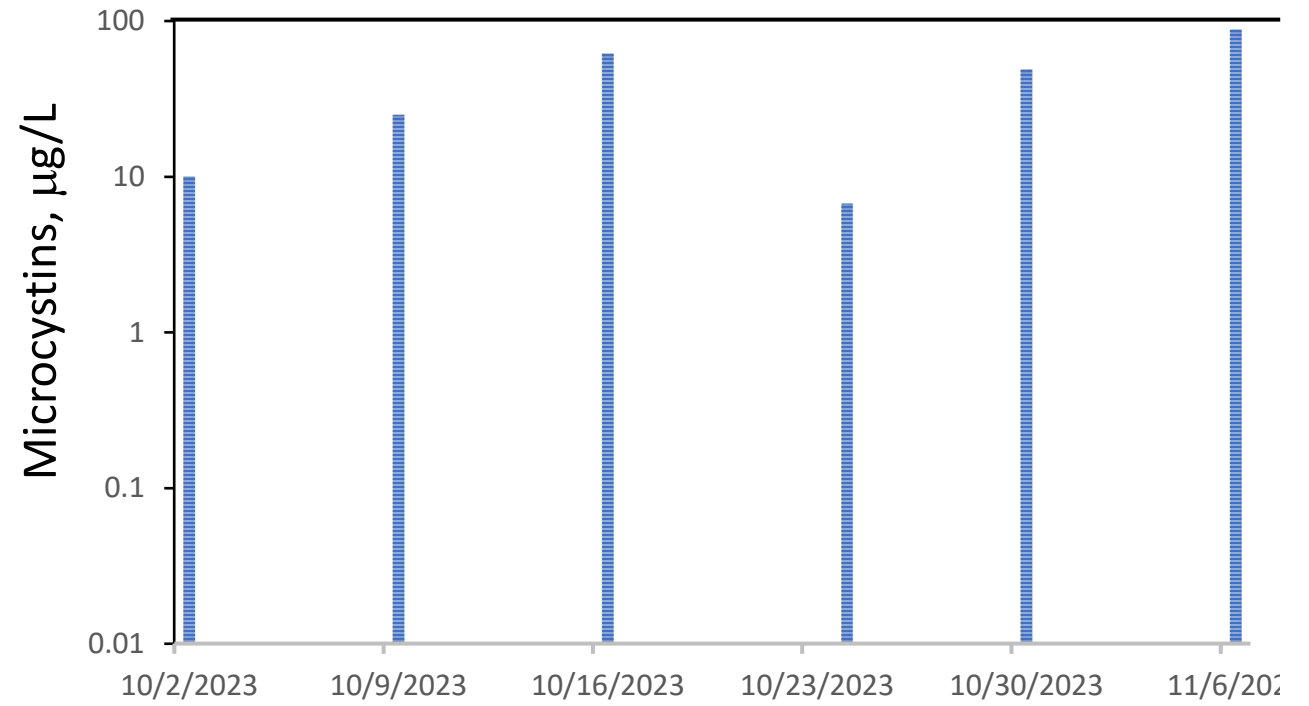
Date

source: <https://www.nwtoxicalgae.org/Data.aspx>

# Anatoxin-a, Columbia River, WA at Howard Amon Park



# Microcystins, Snake River



Date

source: <https://www.nwtoxicalgae.org/Data.aspx>

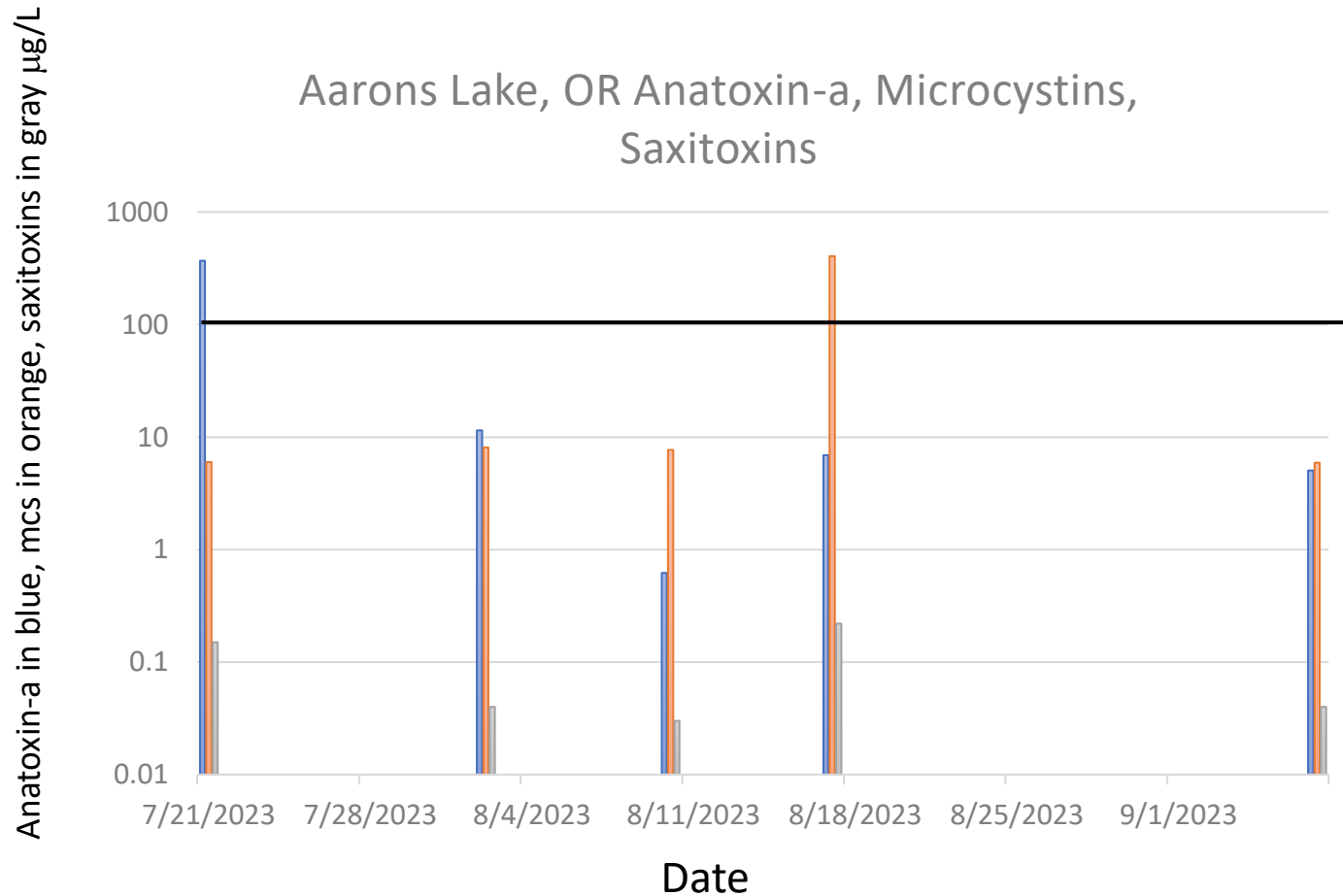


ESA Sentinel 2 True Color Image



Wawawai Landing boat launch on 9/25/2023.

# Aarons Lake and Willamette River Advisories



- Aarons Lake –
  - July 25-Sept 14 for Aarons Lake on Sauvie Island in Columbia County.
  - 3 toxins detected
- Willamette River–
  - July 28 -Sept 28 (unmerged and merged)
  - Microcystins

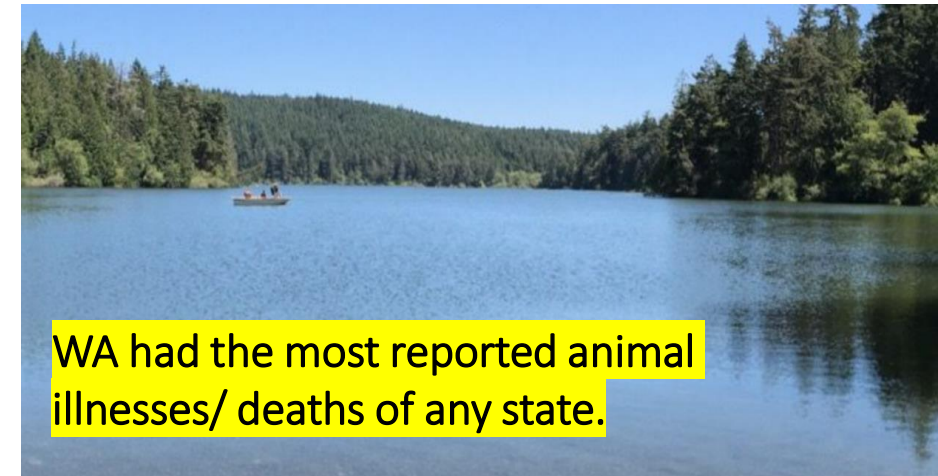
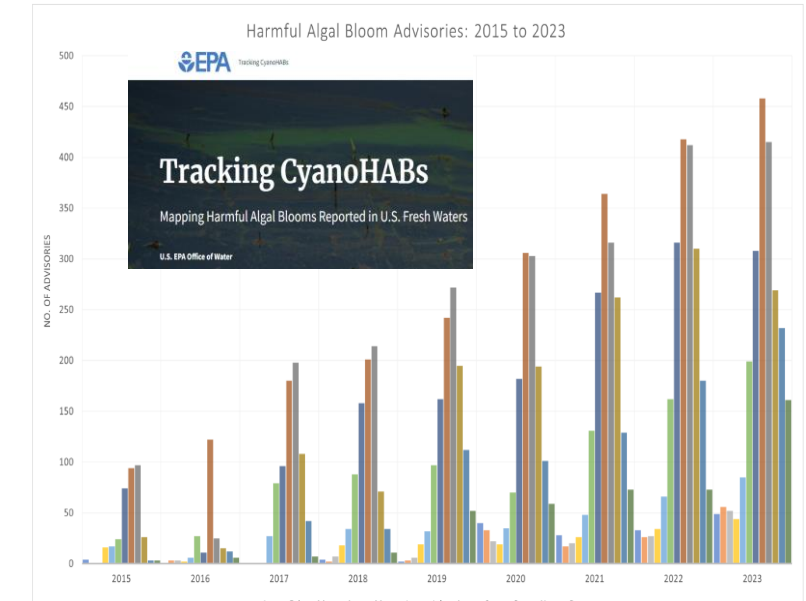


# Tracking Events is Important and Complex

- EPA's CyanoHABs tracker for advisories
- State reports to CDC's OHHABs
- Interaction between recreational detections and drinking water
- R10 Internal Survey 1-2-3 App and Dashboard for reporting detections and advisories

Per CDC [2023 OHHABs report](#) (2021 data):

- Animal illnesses occurred primarily in August (2,328; 86%) and mostly involved wildlife
- a mortality event killed at least 2,000 bats (Pass Lake, WA).



WA had the most reported animal illnesses/ deaths of any state.

# BIL/IRA in R10 Program Update

## Community Change Grants Program

- The Inflation Reduction Act Community Change Grants program (open now with rolling applications see the solicitation with the particulars). Make sure to check out the “numbers and types of awards” section of the Notice of Funding Opportunity.
- Main link: <https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program>
- Link to information on available technical assistance for applying for a grant – direct link: <https://www.epa.gov/inflation-reduction-act/community-change-equitable-resilience-technical-assistance>

## EPA announces \$74M for Oregon drinking water, wastewater and stormwater infrastructure upgrades

Unprecedented funding from Bipartisan Infrastructure Law is transforming communities across the state

February 21, 2024

### Contact Information

EPA Region 10 Press Office ([R10\\_Press\\_Team@epa.gov](mailto:R10_Press_Team@epa.gov))

**NOW OPEN - Environmental and Climate Justice Community Change Grants Program (Community Change Grants)**

EPA's new Environmental and Climate Justice Community Change Grants program (Community Change Grants) is now OPEN with approximately \$2 billion dollars in Inflation Reduction Act funds in environmental and climate justice activities to benefit disadvantaged communities.

- [Learn more about the Notice of Funding Opportunity for Community Change Grants Program \(Community Change Grants\)](#)

# Recently Recorded and Upcoming Webinars

- Cyanosymposium 2023 was a success – recordings available.
  - Planning for 2025 Cyanosymposium
- Great Lakes - Recorded webinars that may be of interest - [Webinars - Great Lakes Commission \(glc.org\)](https://www.glc.org)
- March 13, 2024: Nutrient Explorer [Register for the Nutrient Explorer webinar!](#)
- At the next [Benthic HABs discussion group](#), March 26, 2024, and in a session at the US HABs Symposium Oct 27-Nov 1, EPA will present on the Benthic HABs methods project, including R10 Columbia River site – see later slides
- Also 3/26: Small Drinking Water Systems Webinar Series: [Harmful Algal Blooms](#)
- April 4, 2024: ORD Webinar: [Report on the Environment](#)

And others – see <https://www.epa.gov/research-states/epa-tools-and-resources-webinar-series>

<https://www.epa.gov/habs/epa-cyanosymposium-2023-october-16-18-23-and-26-2023>

## US EPA Benthic HABs Discussion Group [webpage](#)

You are invited to a Zoom webinar.

When: Mar 26, 2024 09:00 AM Pacific Time (US and Canada)

Topic:

Register in advance for this webinar:

[https://zoom.us/webinar/register/WN\\_g-sc9lq0STKiGdf38UFI1Q](https://zoom.us/webinar/register/WN_g-sc9lq0STKiGdf38UFI1Q)

After registering, you will receive a confirmation email containing information about joining the webinar.

AGENDA







EPA's Office of Research and Development  
invites you to a free webinar.

## HABs, Hypoxia, and Nutrients Research Webinar Series

# Genetic Science Applications in Predicting Cyanobacterial Blooms

Wednesday, March 27<sup>th</sup> from 2 to 3 p.m. ET

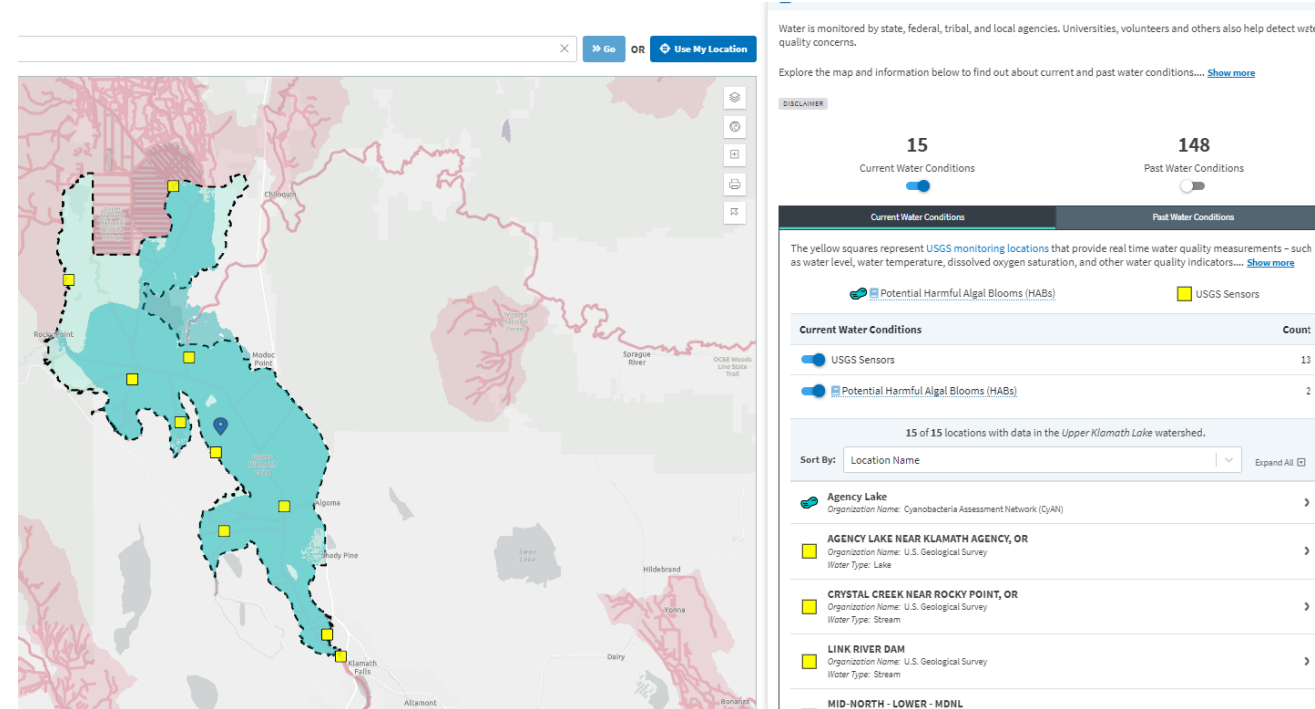
**Registration:** [https://us02web.zoom.us/webinar/register/WN\\_q91VTanwRum7u6TxTB04mg#/registration](https://us02web.zoom.us/webinar/register/WN_q91VTanwRum7u6TxTB04mg#/registration)



A certificate of  
attendance will  
be offered for  
this webinar

# Region 10- Foci -Related Project Updates

- ODEQ and EPA submitted a paper on SAES method for mcs
- Genetic tool development- papers in prep.
- Benthic HABs methods development (see next set of slides)
- AK PWS HABs vulnerability assessment
- Saxitoxins HESD and related literature search – under development at HQ
- Anatoxins toxicology research continues—update presentation anticipated in November
- Wildfires and water quality research
- CyAN project data are in How's My Waterway app.



<https://mywaterway.epa.gov/community/klamath%20lake,%20or/monitoring>



# Example topics and questions fielded from across R10 and beyond in 2023

- Harmful algae terminology and identification
- Identification and treatment of cyanotoxins issues for private drinking water
- How should public water systems manage with benthic blooms at intakes?
- What are the drivers of riverine HABs?
- What states have saxitoxin and anatoxin thresholds?
- Identification and control for benthic algae
- What has changed - why are algae cropping up in a new place this year?
- Are there dog and cattle thresholds?
- Are there wildlife thresholds and tissue monitoring methods?
- What are the potential funding programs/resources for HABs management?
- Questions (national and international) about HABs monitoring and mitigation

# Columbia River Harmful Cyanobacterial Blooms: Cyanotoxin Detections are a Recent Phenomenon

*Following the deaths of several dogs in September 2021, anatoxin-a was detected in recreational water samples collected along the shoreline of the Columbia River (peak value of 67.2µg/L)*

*No visible surface/planktonic bloom.*

*Presence of planktonic **and benthic cyanobacteria** have been identified*

*Dog illnesses and deaths happened again in 2023*

[www.opb.org/article/2023/10/16/epa-study-columbia-river-toxic-algae/](http://www.opb.org/article/2023/10/16/epa-study-columbia-river-toxic-algae/)


mat Exposure history de... Nutrient-chlorophyl... Cyanobacteria Satel... USG

**In The News** Oregon's forests Campaign finance limits I-5 bridge designs Drug recriminalization Ashland em

## Big trouble on the Columbia: EPA studies river's toxic algae spread

By Anna King (Northwest News Network)  
Oct. 16, 2023 6 a.m.

▶ 0:00 / 4:02



# Benthic HABs are an Emerging Concern

2021 was a hot dry year with widespread issues in rivers and streams where they had not been seen before

- Vulnerable lake shores, wadeable streams/river side channels, potholes are common spots
- EPA has not yet developed monitoring guidance or risk communication tools specific to benthic HABs
- Multiple toxins may be present
- EPA's [Benthic HABs Project](#) goal is to develop a streamlined set of methods to assess benthic HABs

Keep an eye out for benthic HABs! Dog illnesses and rapid deaths have been linked

**HEALTH ADVISORY**  
South Umpqua River  
AVOID POOLS OF WATER IN BEDROCK ALONG THIS RIVER

Cyanobacteria (blue-green algae) can produce toxins that can cause serious illness in pets, animals and humans.

- Dogs have died after drinking water from these potholes. Autopsies showed they swallowed toxic algae.
- Stay out of rock formations along the shore.
- Avoid water contact. Do not drink the water.
- Children and pets are at greatest risk.

When in doubt, stay out: don't go in water that is scummy, thick like paint, pea-green or blue-green.

For more information contact Douglas County Health Department: 541-440-3574  
OHA Public Health Division: 1-877-290-6767 or [www.healthoregon.org/hab](http://www.healthoregon.org/hab)

**ANIMAL SAFETY ALERT**  
Toxic Algae

If your pets go in the water:

- Do not let them lick their fur
- Rinse them with clean water
- Rinse your hands and any exposed skin

**When in Doubt, Stay Out!**  
If you see a bloom, do not let your pet in the water

- Toxic algal blooms can poison animals, wildlife, and people
- Blooms appear as foam, scum, or streaks on the surface of water
- Look for blooms in lakes, ponds, and rivers
- Toxic blooms can be different colors: green, blue, red, or brown

Animals can have severe signs within minutes to hours. Look for these signs:

- Seizures
- Drooling
- Paralysis
- Weakness
- Tremors
- Diarrhea
- Stumbling
- Low energy
- Vomiting
- Not eating

If your pet becomes ill, call your veterinarian immediately!

Report animal poisonings to your local health department: 509.460.4205

**Strategies for Preventing and Managing Benthic Harmful Cyanobacterial Blooms (HCB-2)**

**HARMFUL CYANOBACTERIAL BLOOMS (HCBs)**

Harmful Cyanobacterial Blooms (HCBs) are complex ecological phenomenon that can occur where cyanobacteria proliferate and dominate aquatic ecosystems including lakes, streams, rivers, reservoirs, ponds, and freshwater-influenced estuaries. They serve as vibrant hubs for recreation, tourism, and local identity. Human activities can influence and alter their natural ecological equilibrium. Freshwater inland lakes and reservoirs supply approximately 70% of our nation's drinking water and industry withdrawals.

HCBs can occur in many parts of a water body. Planktonic HCBs occur when cyanobacteria dominate the water column (pelagic zones) of water bodies. In addition to being suspended in the open water, some cyanobacterial

[ITRC Guidance on Benthic HABs](#)

[ITRC ID Video](#)

[New Zealand Benthic HABs Video](#)



Slide  
courtesy  
Jim  
Coleman,  
BFHD

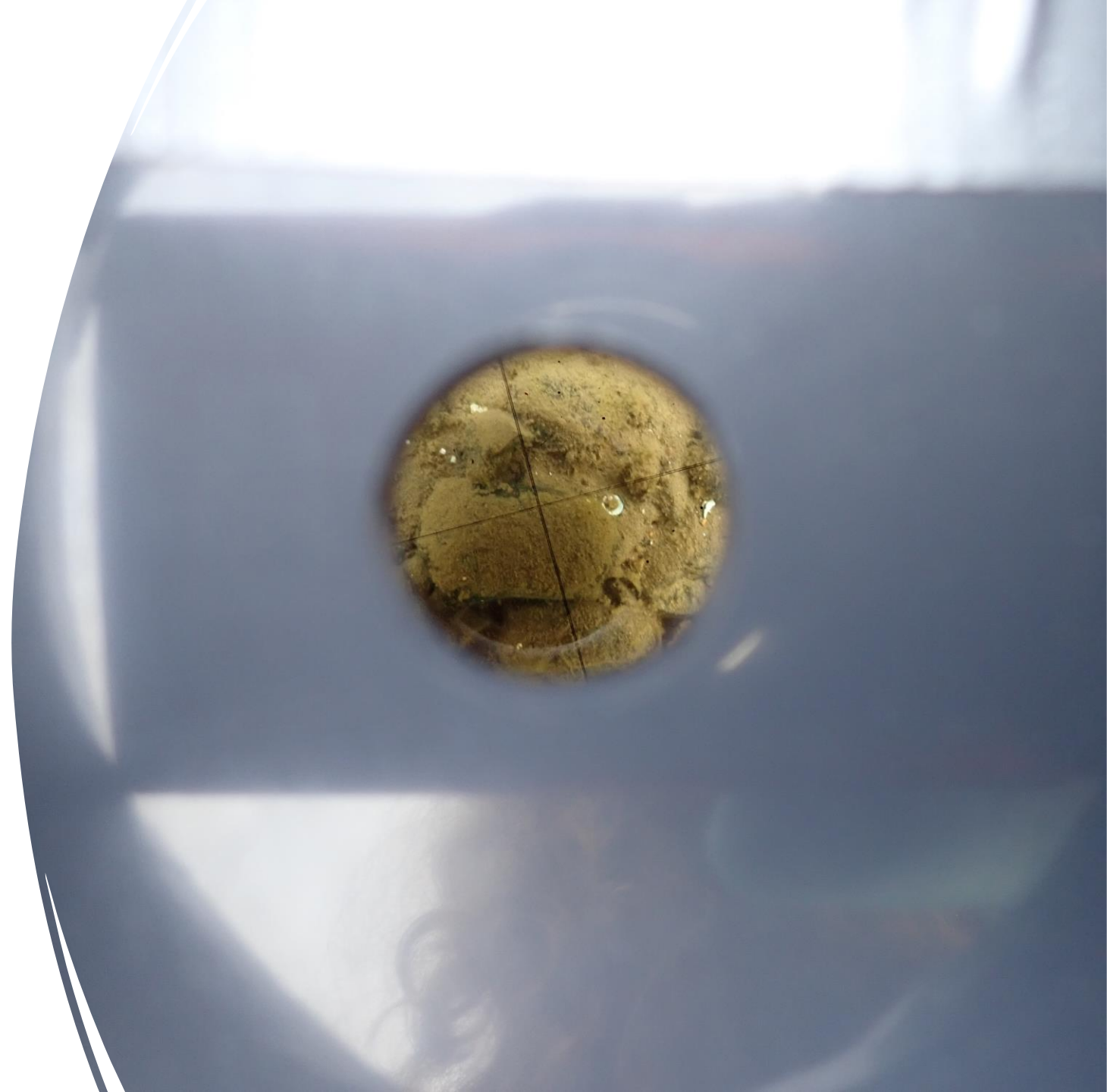




SPATTs! And Grabs



100% cover?







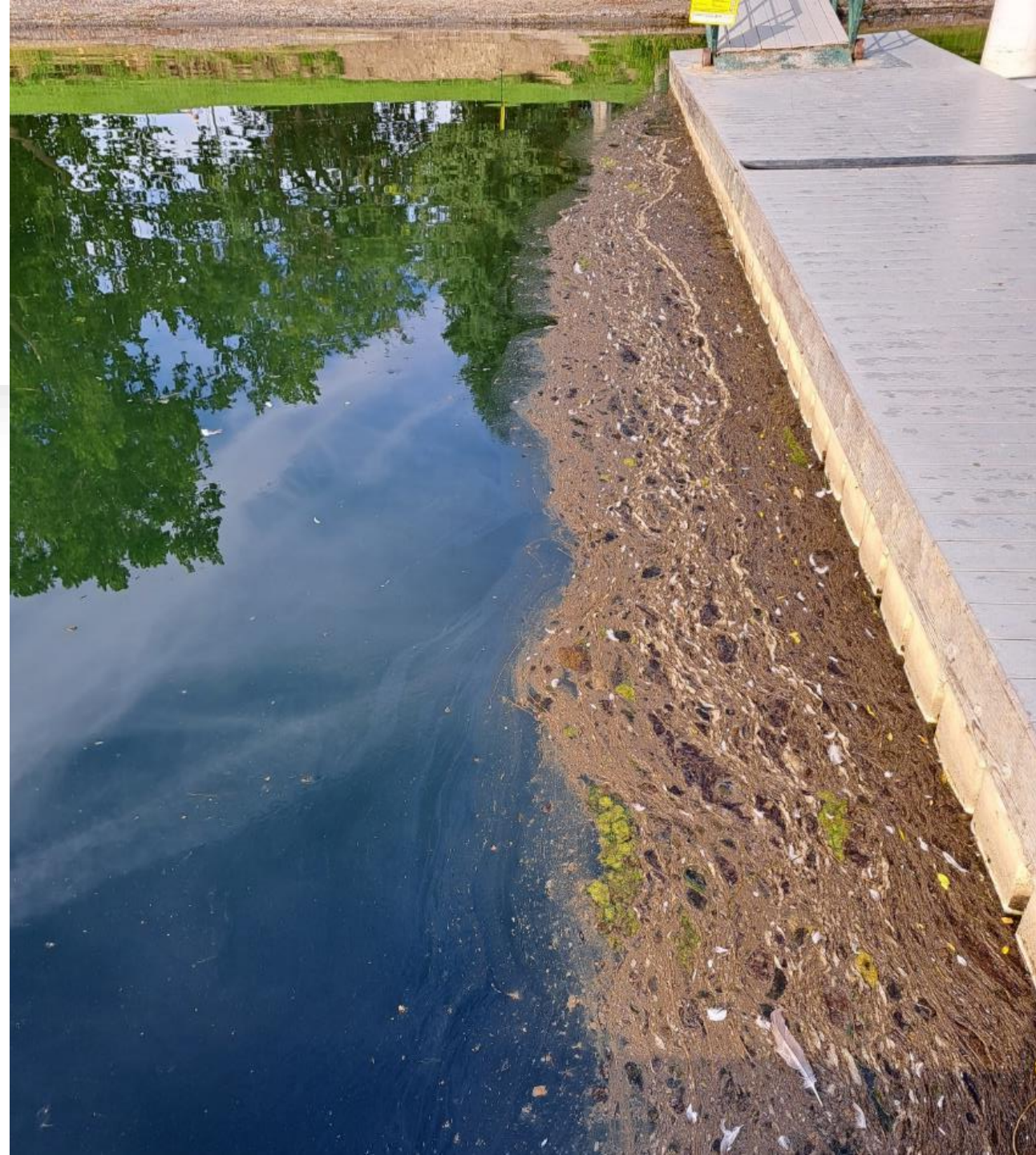


# Preliminary Data— Example from Howard Amon Park

Cyanotoxins detected by the EPA in October,  
around the time that 2 dogs died

- Detectable anatoxin-a, cis-dihydroanatoxin-a, homoanatoxin-a, and dihydroanatoxin-a

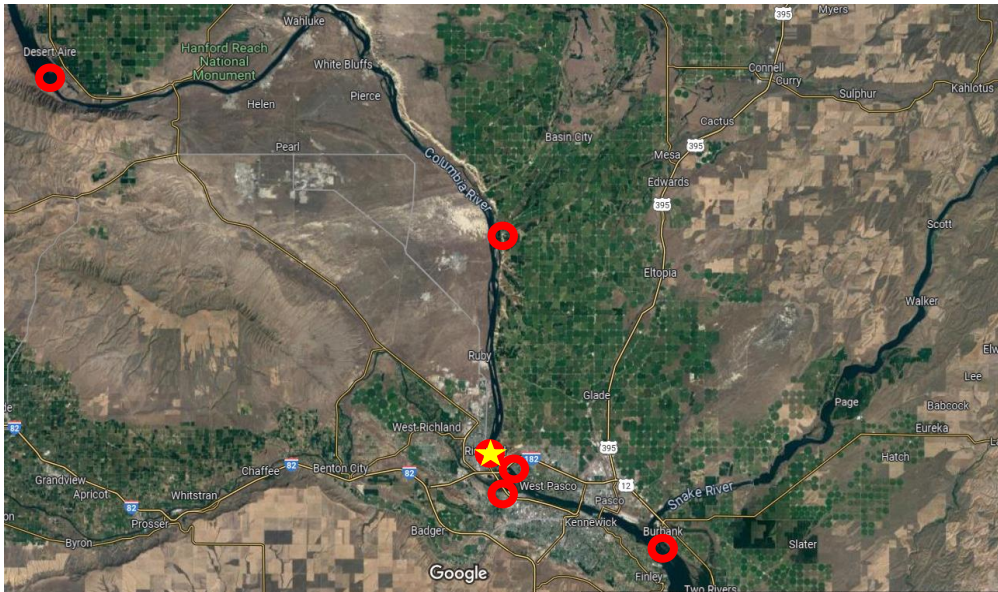
*Data are preliminary, do not cite or quote*





# Next Steps for Columbia River Benthic HABs

- Characterizing extent and drivers



Some potential sites for 2024 – red circles

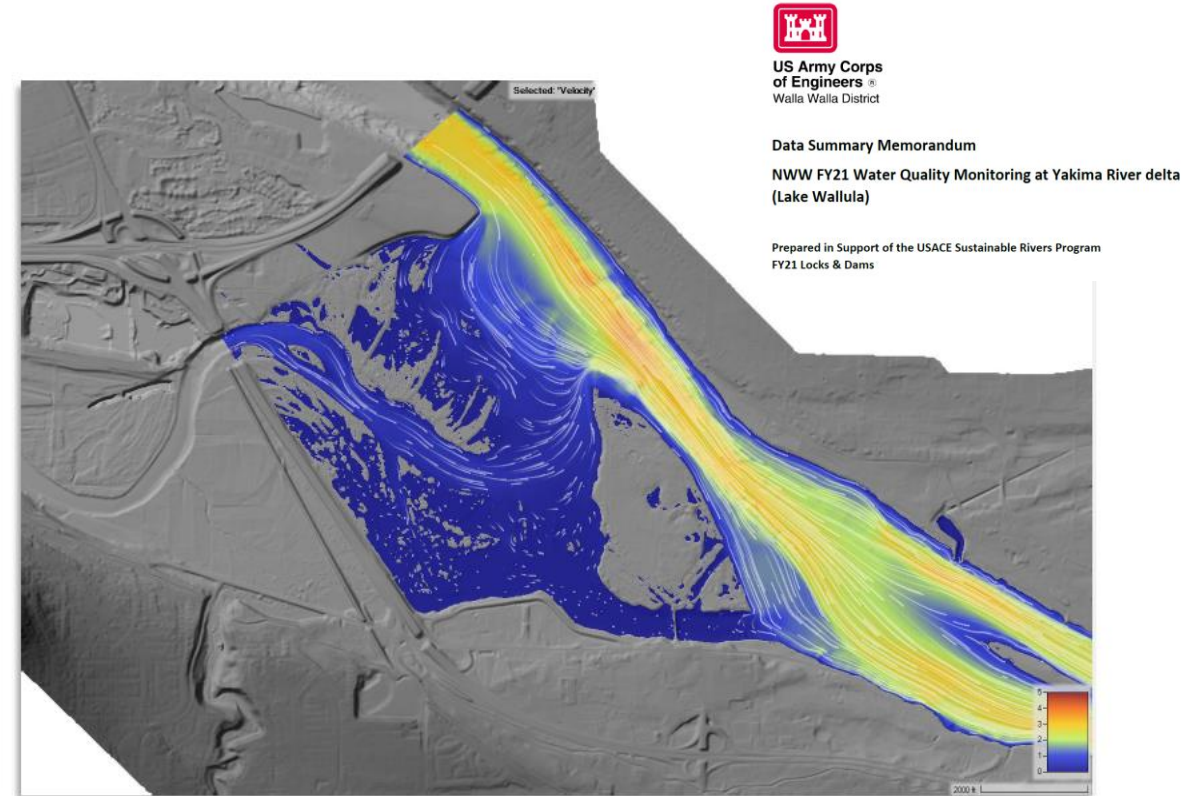
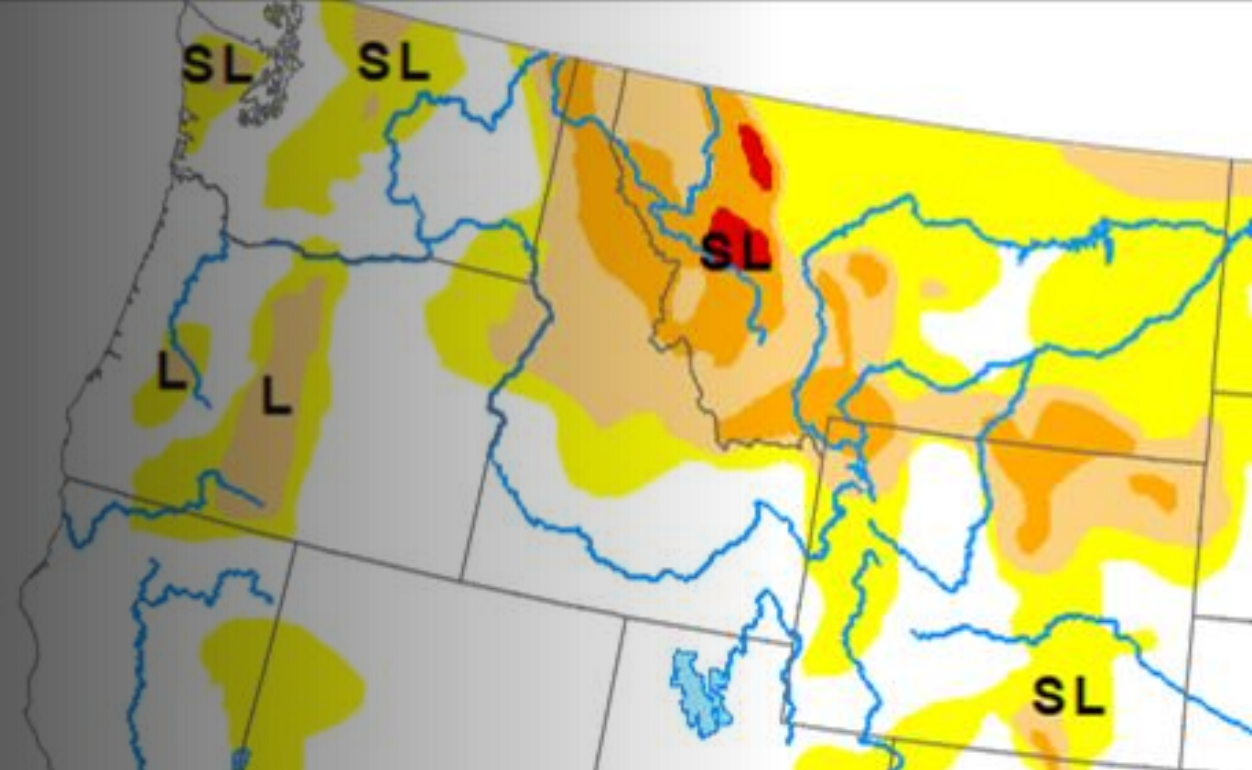


Figure 2.6-1 Example HEC-RAS 2D model output for velocity on 24 June 2021. Note relatively low velocities southwest of Bateman Island.

# 2024 Message – Please Be Prepared Early



https://www.cpc.ncep.noaa.gov/products/analysis\_monitoring/enso\_advisory/ensodisc.shtml

National Weather Service  
Climate Prediction Center

Home Site Map News Organization Search Go

## EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by  
CLIMATE PREDICTION CENTER/NCEP/NWS  
8 February 2024

**ENSO Alert System Status: El Niño Advisory / La Niña Watch**

**Synopsis:** A transition from El Niño to ENSO-neutral is likely by April-June 2024 (79% chance), with increasing odds of La Niña developing in June-August 2024 (55% chance).

During January 2024, above-average sea surface temperatures (SST) continued across most of the equatorial Pacific Ocean [Fig. 1]. SST anomalies weakened slightly in the eastern and east-central Pacific, as indicated by the weekly Niño index values [Fig. 2]. However, changes were more pronounced below the surface...



# R10 Contacts- Contacts on HABs for AK, ID, OR, WA

POC for Recreational/Ambient Waters:

Rochelle Labiosa

206-553-1172

[Labiosa.Rochelle@epa.gov](mailto:Labiosa.Rochelle@epa.gov)

POC for Drinking Waters:

Caitlin Bates

503-326-2653

[Bates.Caitlin@epa.gov](mailto:Bates.Caitlin@epa.gov)

For urgent after-hours issues please contact the EPA Spill Line:

*206-553-1263; select the menu option for Regional Duty Officer*

EPA's Cyanobacteria HABs Website

[www.epa.gov/cyanohabs](http://www.epa.gov/cyanohabs)