



SWRCB Division of Drinking Water CA HAB Response

ONE OF MANY PARTNERS DURING A HAB RESPONSE

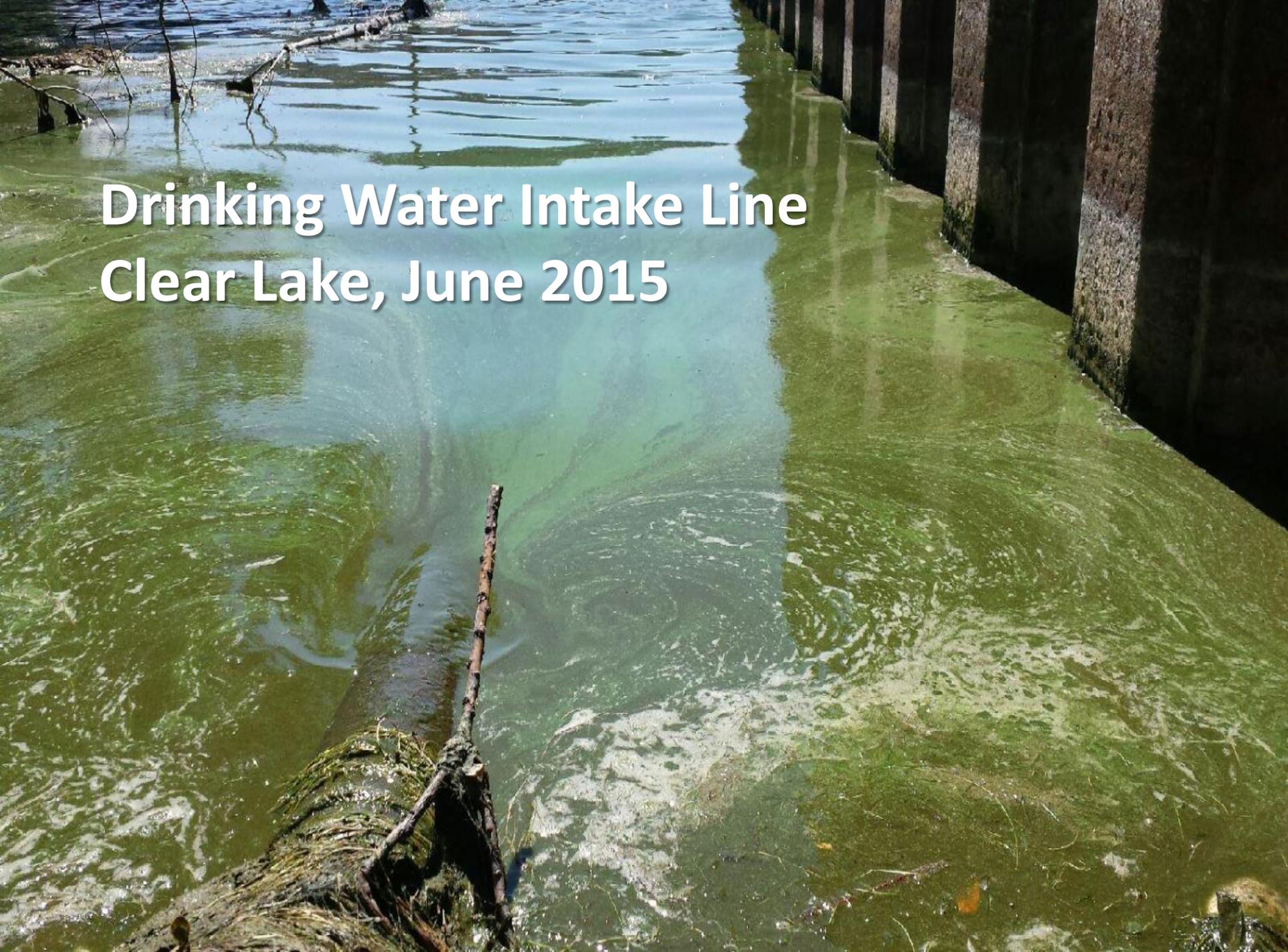
CCHAB Meeting: January 25, 2018

Presented by: Sheri Miller, DDW-Mendocino District



Division of Drinking Water and HAB Response

- What is the role of DDW
- How DW utilities plan for addressing cyano events
- How HAB responders can best coordinate with DDW

A photograph showing a drinking water intake line in a lake. The intake line is a concrete structure on the right side of the frame, with a clear channel of water flowing through it. The surrounding water is heavily covered with green algae, which is visible as a thick layer on the surface. A wooden stick is visible in the foreground, partially submerged in the water. The text "Drinking Water Intake Line Clear Lake, June 2015" is overlaid on the image in white font.

**Drinking Water Intake Line
Clear Lake, June 2015**

Division of Drinking Water Responsibilities

Section 116350 of CA Health & Safety Code

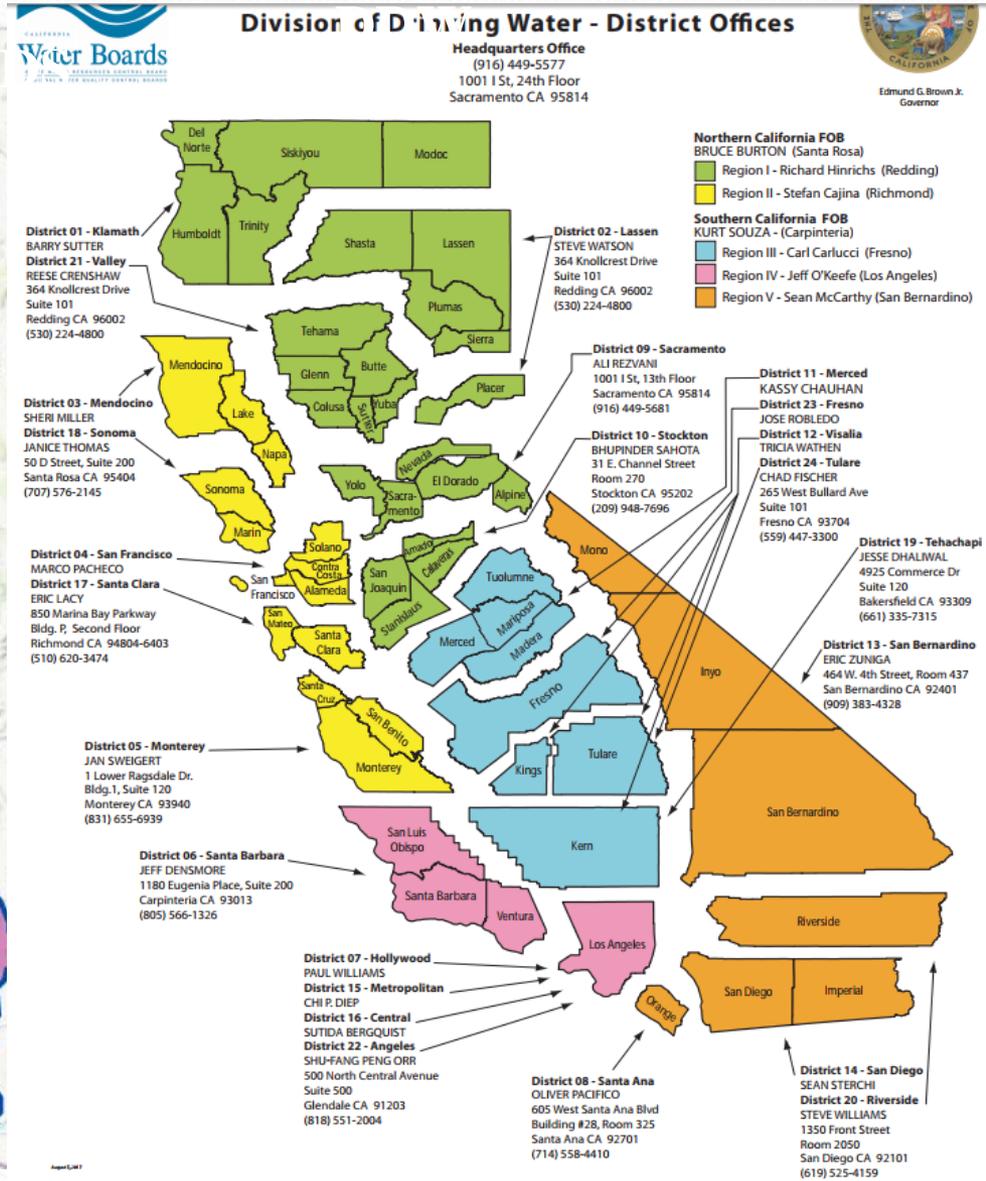
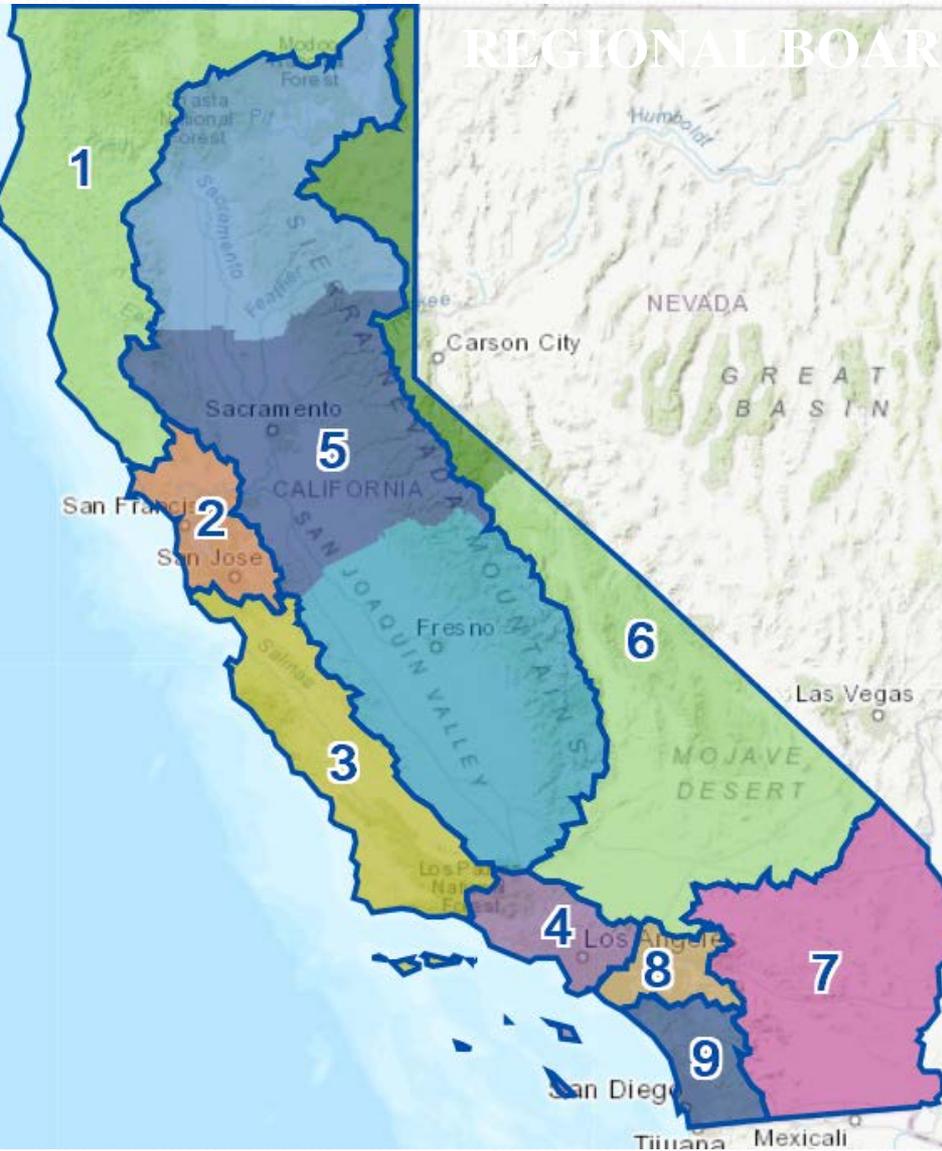
- (a) The department shall administer the provisions of this chapter and all other provisions relating to the regulation of drinking water to protect public health.
- (b) (1) Conduct research, studies, and demonstration projects relating to the provision of a dependable, safe supply of drinking water
- (b)(2) Enforce provisions of the federal Safe Drinking Water Act and regulations adopted pursuant thereto
- (b)(3) Adopt regulations to implement this chapter.

Public Water Systems

- DDW regulates Public Water Systems in CA (PWSs have 15 or more service connections or regularly serve at least 25 individuals daily at least 60 days out of the year)
 - Includes source, treatment, and distribution system that serves the public water



SWRCB REGION vs DISTRICT MAP



DDW Organization Chart

- Deputy Director: Darrin Polhemus
- Branches: NorCal, SoCal, Program Management
- Five Regions, lead by a Regional Engineer
- District Offices, lead by a District Engineer typically with a team of staff, including administrative, scientists, and engineers

Examples of DDW Duties

INSPECTIONS

PERMITS

WATER QUALITY
DATA REVIEW

EDUCATION/
TRAINING

ENFORCEMENT

TECHNICAL
SPECIALISTS

EMERGENCY
RESPONSE

REG
DEVELOPMENT

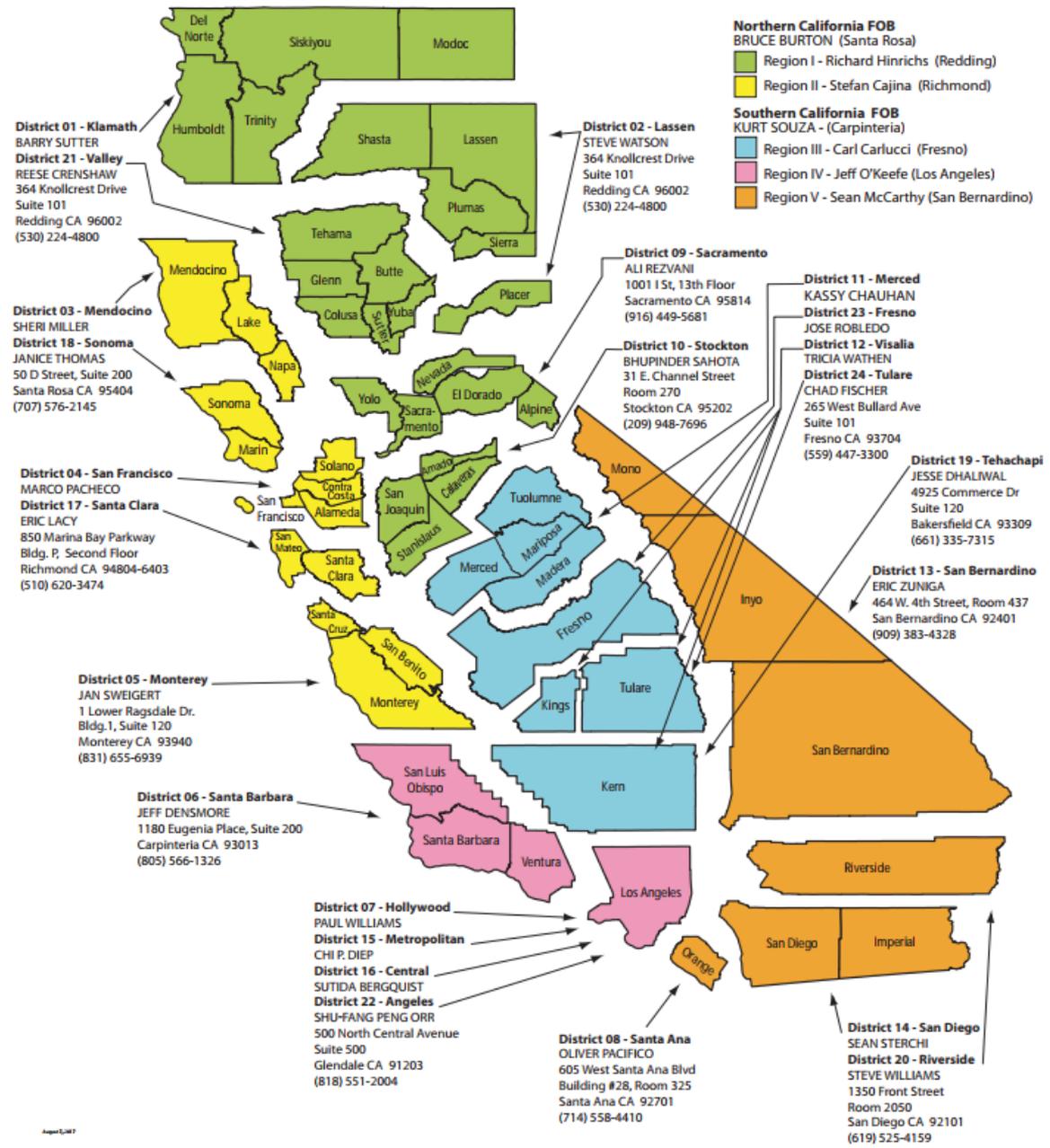
LAB
ACCREDITATION

LINK TO
FUNDING

DATA QA/QC

RECYCLED
WATER

- All concerns regarding water systems within a District's boundaries filter through the District Engineer.
- Important to contact the specific District Engineer to facilitate the response from SWRCB DDW



Relationships at a District Level

- Long-standing relationships and regular communication with
 - Water systems/utilities
 - County public and environmental health
 - Laboratories
 - Other DDW District offices and Program Mgmt Branch



Harmful Algal Blooms

A Drinking Water Concern

- Drinking water community has traditionally focused on taste, odor, impact on treatment processes – with background awareness of toxicity issues
- DDW does not have specific authority for action by PWSs but cannot ignore the potential threat posed by cyanotoxins
- August 2014: Toledo, OH episode focuses national attention on potential drinking water risks

Drinking Water Health Advisories

- Per US EPA: Health advisories are **non-regulatory** concentrations at which adverse health effects are not anticipated to occur over specific exposure durations (e.g., one day, ten days, and lifetime)
- In June 2015, US EPA issued 10-day Drinking Water Health Advisories (HAs) for two cyanobacterial toxins: total microcystins and cylindrospermopsin
- HAs are not legally enforceable, and are subject to change based on new information

U.S. EPA

Drinking Water Health Advisories

- 10-day Health Advisory recommended concentrations for total microcystins:
 - **0.3 µg/L** for children younger than school age
 - 1.6 µg/L for all other age groups
- 10-day Health Advisory recommended concentrations for cylindrospermopsin:
 - **0.7 µg/L** for children younger than school age
 - 3.0 µg/L for all other age groups

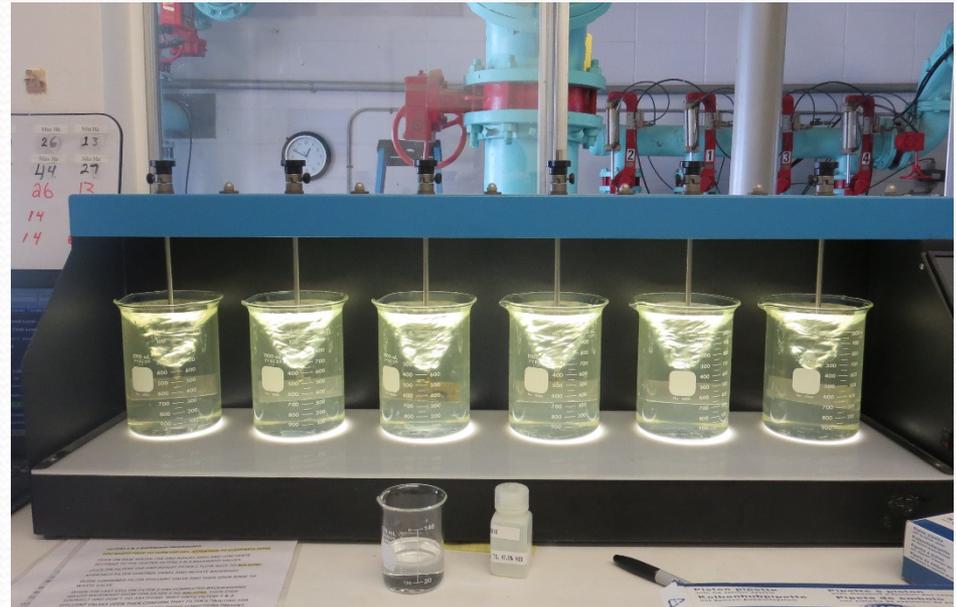
Safe Drinking Water Act and Multiple Barrier Approach

- Regulations promote multiple barrier approach to providing safe drinking water
- Treatment technologies and number of additional barriers will differ among PWS
- Operator experience will differ among PWS



HABs and SWT Plants

- No “one size fits all” solution
- HAB impacts to SWTPs; operators adjust treatment processes to stay in compliance with SDWA or shut down the plant
- Treatment systems must be fine-tuned based on source water, treatment train, technical ability, analytical ability
- Growing amount of tools to help PWSs optimize treatment



PWS Monitoring Requirements

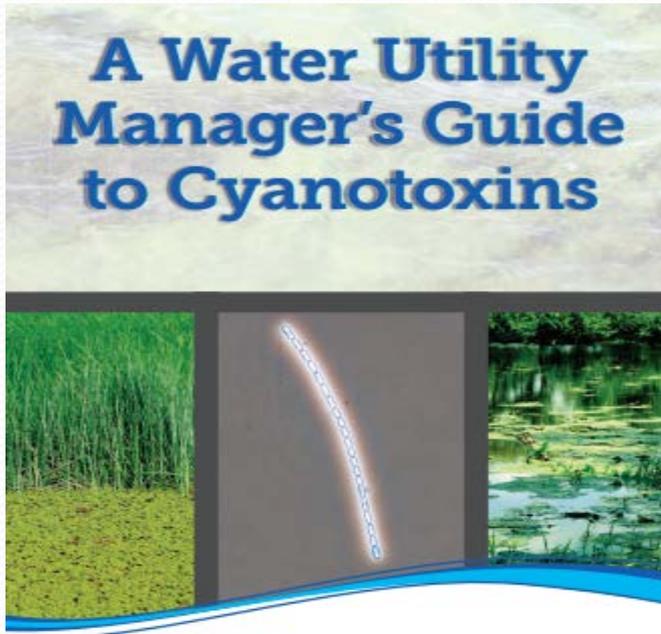


- State Requirements, CA Regulations, “Title 22”, Chapter 15 – state and federally regulated constituents. (e.g. nitrate, nitrite, turbidity, arsenic, mercury, SOCs, VOCs, and many more) – access our WQ database
- Example from Clear Lake
 - Konocti County Water District: daily raw turbidity, pH, alkalinity
 - Highlands Mutual Water Company: High frequency WQ (pH, DO, SC, ORP, BGAPC, CHL, NTU), none reported monthly to us but likely collecting many more WQ parameters
 - Clearlake Oaks CWD: daily pH, turbidity, temperature
 - Golden State Water Company: likely installing a new ammonia probe at intake

What DDW Offers to Water Systems

- Monitoring Strategies
 - Detecting when bloom conditions change
- Develop Cyanotoxin Management Plans
 - Encourage systems to develop treatment Strategies
 - Stay educated on Best Available Technologies
 - Routine communication with local partners
 - Know and communicate with compromised service connections
 - Public notification and messaging
- Provide Resources
 - EPA Resources, AWWA/WRF Guide

Treatment Tools



Water Treatment Optimization for Cyanotoxins

Version 1.0



Office of Water (MS-140) EPA 810-B-16-007
October 2016



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What DDW can provide... during an incident

- Inform public water system of US EPA health advisory, provide monitoring support, assist with identifying stakeholders, provide resources and guidance regarding monitoring, treatment, and public notification



What Information does DDW need?

- DURING INCIDENTS

- Continued communications – it's impressive and appreciated
- Background information if initial incident

- WATERSHED KNOWLEDGE

- Major sources of contaminants
- Impaired water source? TMDLs?

What DDW can provide... Watershed

- Watershed Sanitary Survey – every five years; includes characteristics and evaluation of contaminating activities and recommendations
- Intake Water Quality Data
 - State WQ database - <https://sdwis.waterboards.ca.gov/PDWW/>
 - Approach individual public water system – sometimes collecting daily, hourly, 15-min water quality parameters
 - Potentially share any ongoing related monitoring performed

Effective Notifications – Looping in DDW

- **TEAM UP PRIOR TO BLOOMS** – HAB partners with knowledge of water bodies with ongoing problematic conditions are encouraged to contact the District Engineer ahead of time to learn if any public water systems may be potentially impacted; this will allow for preparation and a better response during an incident
- **REPORTED INCIDENT** – contact the District Engineer; DE will communicate directly with any public water systems; response from public water system may vary widely due to number of factors
- **FOLLOW UP** – continue information exchange with DDW/PWS

Building Bridges



- Connecting the public water system and District Office to watershed activities impacting source water
- Support CCHAB partners (protect public health is our driver)

Additional Information

- Contact your local DDW Field Office

http://www.swrcb.ca.gov/drinking_water/programs/documents/ddwem/DDWdistrictofficesmap.pdf

- DDW Cyanotoxin Web Page:

http://www.waterboards.ca.gov/drinking_water/programs/habs/

- USEPA Cyanotoxin Web Page:

<http://www.epa.gov/nutrient-policy-data/cyanobacteriacyanotoxins>

- AWWA/WRF Guidance for Water Utilities:

<http://www.waterrf.org/PublicReportLibrary/4548a.pdf>

Contact Information

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