California Cyanobacteria and Harmful Algal Bloom Network (CCHAB Network)
Meeting Notes
October 26, 2017
9:00am - 2:30pm
San Joaquin Delta Conservancy
Conference Room
1450 Halyard Drive, Suite 6,
West Sacramento, CA 95691

Agenda:

1) Welcome, Introductions, Announcements

2) Statewide HABs Status Updates
    a) Northern/Central
        i) Central Valley Region (Joab)
            (1) 30 waterbodies
            (2) 12 repeat sites
            (3) 11 Water Board monitoring
            (4) 17 partner monitoring
            (5) 5 suspected human illnesses
            (6) 11 pet deaths. Fish kills
        ii) Clear Lake
            (1) Significant bass die off
            (2) qPCR – low levels of mcrocystins throughout year
            (3) *Dolichospermum* was dominant
            (4) chl-a + phycocyanin measurements at all routine sites
            (5) monitored with toxin test strips and conducted cell ID
        iii) Copsey Creek – Flows into Cache Creek
            (1) High levels of microcystin
        iv) Lake Berryessa
            (1) Rumor of dog death in July for Berryessa
            (2) Seizures, foaming at mouth (anatoxin-a)
            (3) Staff collected samples (5 total, from south to northwest)
            (4) Detected cylindrospermopsin at all sites, 1 site detected anatoxin-a
            (5) Floating algal mats at swim sites
            (6) Is Berryessa suffering from benthic cyanobacteria?
                (a) Seeing if so, following up with monitoring
                (b) The lake wasn't showing the typical green scum
        v) Klamath
            (1) Levels higher than we have usually seen
            (2) Bloom finally came down, reporting will happen (but not in reservoirs)
            (3) Highest microcystin levels ever seen
                (a) 100,000mg/L
                (b) Highest toxin levels EPA has ever seen

(c) Started late August to early September
(4) River down to the estuary was green, was at Public Health threshold
(5) Fires were consistent this year on mid Klamath, Happy Camp
(6) How was that compared to last 5 years?
(a) Consistent fires every year (2012, 14, 15, 17, pretty bad years)

vi) Discovery Bay – 11 samples, all positive for microcystin
(1) (preliminary results) public access area at caution level
(2) Stayed green color longer than expected
(3) Monitoring is more complaint based
(4) Most observations in east middle part of the bay
(5) How long will monitoring continue? → Just until caution level sign comes down

vii) SF Bay -small water bodies had blooms
(1) There were dog deaths in late June (Huicha ponds, Napa County)

viii) Lake Temescal near SF Bay
(1) Filamentous algae (Oct. 10)
(2) Pretreatment (Alum treatment) nutrient testing (Oct. 16)
(3) Sediment dredge (this week)
(4) Collected nutrient samples yesterday (no results yet)
(5) Noticed that all the alum treatment helped that lake improve – Are there links from Lake Temescal and discovery bay?

ix) Pinto Lake
(1) Post-alum treatment - water clarity improved, cyanobacteria levels reduced, cyanobacteria toxin levels reduced

b) <u>Southern</u>

i) Long Beach, El Dorado Regional Park
(1) Fish kill but no follow-up
(2) Blooms last year until Thanksgiving
(3) Region 9 EPA and Region 4 staff responding to blooms and lake management
(4) Steven Webb at Region 4 did copper treatments, fish kill occurred (not sure if it was from the bloom or treatment)
(5) Started in March or April
(6) What algaecide was used?
(a) copper-based algaecide, probably exempt from the TMDL

ii) Lake Elsinore
(1) Monitored Lake Elsinore a couple times
(2) Had high concentrations of microcystins and anatoxin-a detected at low concentrations
(3) Samples were from a few months ago
(4) Last results that we saw were in mid-September
(5) Supposed to be sampling, need to follow-up
(6) Many signs still posted in October
(7) RB and EPA staff went out to site recently

iii) Big Bear lake
(1) Did anyone attend Big Bear?
(a) *Carrie Austin RB 2* got a tour of the lake, this lake use to be a marsh, dam was built in 1800, bottom very organic rich
(2) This year was a better year (alum treatment, dredging, aquatic plant harvest, fish hatchery construction)

iv) Lake Mission Viejo
(1) Golden algae well managed so not as many fish kills
(2) Going to change water source – treated water so that won't have much nutrients
(3) Strain of Largemouth Bass to be introduced for sport fishing

c) <u>Others</u>

i) Lahontan region
(1) Bloom happened, southern part of the Tahoe Keys, toxin detected started early august, were able to remove toxin signs eventually
(2) Sampling collaboration with EPA, housing authority, water board
(3) Southeast Lahontan - Lake Havasu, Colorado river had blooms
(4) Arizona helped to monitor, signs posted at beaches
(5) Salton sea – swimming is still allowed, sample shows anatoxins, perhaps benthic blooms
(6) Erick Burres (State Board) can help with sampling, attendant at the lake didn't have a good experience with the water board, so he can go and talk to them, give them citizen science resources.

ii) Rim Lake
(1) Rim Lake, high alt. lake had a bloom
(2) Same with other high alt. lakes too
(3) Working out false positive with satellite tool
(4) People hiking in Hetch Hetchy want to help with monitoring
(5) Student from UCD also doing research on these lakes

iii) Update on Region 9 (San Diego)
(1) Nothing too major this year, satellite imagery
(2) Only Lake Skinner had anabaena species, which is odd since it has quagga mussels, worked with Riverside County, no-swim signs were posted
(3) A park also had some filamentous algae
(4) Tiny residential area had a fish kill, frog deaths, but no toxins
(5) Satellite tool has been useful

3) <u>Statewide Pre-Labor Day Assessment Project - Marisa Van Dyke/Ali Dunn, CA Water Boards</u>
a) Created map, folks liked it! Could be a replacement on web portal
b) Reached out to groups we knew were doing HAB Monitoring
c) All toxin data pulled into a spreadsheet
d) Set up to be flexible
e) 1200 visits to the webpage
f) Lakes had multiple samples
g) Pros/cons for reporting

i) Pro: gather info that bypasses CEDEN, color coded dots, outreach to public
ii) Con: data gaps, separate map from portal incidental map, lag time, data gaps

h) It is a huge improvement from what we have. Meredith Howard (SCCWRP) thinks it is great, suggests putting on the main site
   i) Can be done but need more info to resolve data gaps
i) How long did it take to create the map?
   i) It took a few days during the pre-labor day assessment planning
j) How to put reports on the map?→ make a marker, but not color coded, just notes
k) Public should know, some symbol to indicate to them
l) Can people call in to ask what the status of the lake is? Yes using the HAB Hotline/email to cyanoHAB.reports email
m) Suggestion to keep time updated on map, markers fade out after a certain amount of days
n) Make sure not to skew data
o) Not clear why we have so many samples for one lake at some sites, while other sites may have few samples for the lake
p) Asked for volunteers to form a sub-group to integrate this map with the current incident map on the landing page of the HAB Portal - request for volunteers will be sent out via lyris list
   i) Since this is a short-term specific product we want to put up, a subcommittee is not necessary. We just need a sub group to focus on getting it done in the next few month.
      (1) Group agreed and a focus group will be formed.
q) Lots of people liked the map, but the media was not very interested
   i) Maybe it's because we didn't have enough time, and just the nature of media
   ii) The message probably wasn't clear or concise enough, could have been 4 different messages
   iii) Good to outreach to counties
   iv) Would like to have a 6-5 week head start to collect data for some holidays next year.

BREAK

4) From green water to gene counts: the long and short of using molecular tools for improved algal bloom monitoring - Tim Otten, Bend Genetics
   a) Slides can be found here → "From Green water to Gene Counts" Presentation

LUNCH

5) Biostimulatory Substances/Biological Integrity Policy Workplan - Martha Sutula, Southern California Coastal Research Project
   a) Slides can be found here → " Biostimulatory Substances/Biological Integrity Policy Workplan" Presentation
6) Subcommittee Updates
   a) Web Portal – Architecture Subcommittee - Linsey Shariq, CA Water Boards

i) Reconvene subcommittee to reorganize HAB Portal layout and integrate revised Voluntary Guidance Document.
    (1) Make improvements to that portal map
    (2) Linsey will be making the portal more user friendly
        (a) Shorten landing page, too long
        (b) Add search tool
        (c) Have a new guidance doc
        (d) Make it easy to find for lake managers
        (e) Will have meetings with Ali and Marisa, open to everyone's input
    (3) May be good to get feedback from health department, get feedback from user groups
        (a) How to request for this?
        (b) Comment box on page maybe?
        (c) The more this issue stays a problem, we reference the portal
        (d) DPR's website asks for user info (it's annoying but it will help us to know who uses our portal)

b) Mitigation Subcommittee –Carrie Austin, San Francisco Regional Water Board
    i) Student this summer put together literature review
    ii) Want to post some items on web, will work to develop webpage on the HAB Portal dedicated to this subject
    iii) Outreach to lake mgmt. via site
    iv) It's the lake managers that are missing from the committee, want to recruit more
        (1) How to?
        (2) Have call scheduled with CALMS
        (3) They wanted admin help with bounce back emails
        (4) Would Ali be co-chair?
            (a) Yes
        (5) How many went to the CALMS conference?
            (a) 100 people rep, 40 lakes

c) Wildlife Impacts Subcommittee –Reggie Linville (Stella with CDFW gave updates on behalf of Reggie Linville), OEHHA
    i) Update wildlife website, strongly emphasizing fish, they have birds
        (1) Add PPE info about collecting samples
        (2) Shared contact info, fish, wildlife biologist by county
        (3) How they are receiving the reports, usually come through website
        (4) Will forward things to the right people
        (5) Want to activate the wildlife link, nothing there right now
        (6) Put up some info about equipment?
            (a) Will do, with who to contact about equipment?
        (7) Any thought about doing a fact sheet?
            (a) Like is it ok to eat the fish?
            (b) Currently nothing about that online
            (c) Thought about putting it together

d) Guidance Update Subcommittee - Marisa Van Dyke, CA Water Boards

i) Marisa and Ali will lead GUS through April 2018
ii) Early Nov. going to reconvene reorganized GUS
iii) expect review/feedback cycle in Feb.
iv) Goal to request CCHAB Network to adopt final guidance doc in April
v) Launch group to integrate OEHHA's Action Levels for algal mats and crusts into the Voluntary Guidance Document, Triggers Table, and Signs.
    (1) Looking for 2 more members
vi) Launch group to develop long-term bloom sign (for year round blooms). This is a section in the 2010 Voluntary Guidance Document and requested by several water managers.
    (1) Army Corps of Engineers decided they don't want to do monitoring because they don't have enough people
    (2) Not sure how they will be able to fit into our plan with the bloom schedule
        (a) Should follow up to see if they will adopt the CCHAB monitoring and advisory posting guidelines/protocol.
    (3) Some places only want to post one sign once a year because they really don't have enough people and funding
    (4) Could save money by having less signs to switch in and out
    (5) Monitoring may or may not continue during posting
    (6) It's a risk mgmt. question
    (7) Washington dept. of health said same thing and reduced number of signs
    (8) CCHAB use to just have two threshold signs, and a 3rd caution sign indicating results haven't come back yet. Larger network review of the tiered signs resulted in additional third sign (caution sign)
    (9) Can signs have standard webpage link ?
    (10) Will signs be translated into more language?
        (a) We are working to get more translations, currently Spanish

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