

CA CyanoHAB Network (CCHAB Network) Meeting

Draft Notes

January 26, 2017

9:00 am – 3:00 pm

Klamath Room, 2nd Floor CalEPA Building

1001 I Street Sacramento, CA.

Agenda:

1) Welcome & Introductions

2) Approve Minutes from the September 29, 2016 CCHAB Meeting

Notes Approved from September 29, 2017 meeting

3) New U.S. EPA recommended criteria - tentative

John Ravenscroft presented- U.S. EPA update on development of recreational ambient Water Quality Criteria for Cyanotoxins.

- a) Comments on the U.S. EPA recommended criteria are due on the February 17, 2017.
 - a. There have been request for an extension on the comment period. The U.S. EPA will have an answer at the end of the week if they will have an extension on the comment period or not (As of February 9th no extension has been granted).
- b) Children were used in the study because they have smaller body weight, spend more time in the water and are more likely to ingest more water during recreational activities like swimming.
- c) Exposure routs considered were dermal, oral and inhalation.
- d) Used mean body weight for children 5 -11.
- e) Approach for recreational ambient water quality criteria(AWQC):

$AWQC (\mu\text{g}/\text{L}) = \text{Reference Dose} \times \text{Relative Source Contribution} \times \text{Bodyweight (kg)} / \text{Ingestion Rate (L/D)}$

Questions

- a) Ingestion rate: Why did you use the 97th percentile from the Study that measures how much water a child ingests over time, it seems a little high? Do you always use 97th percentile in developing swimming criteria?
 - a. The study was small and the exposure handbook suggested using the 97th percentile due to the small scale of the study.
 - b. Incorporating the exposure time brings the calculation rate (duration) down to about the 90th percentile
- b) How did you get duration?
 - a. The duration was derived form using another study contained in the exposure handbook and combined with the ingestion study. (see formula in slideshow)
- c) Do you plan to use the same methods used for future studies for swimming?
 - a. There is always an attempt to keep things consistent, however the approach might change.
- d) Is the swimming advisory the same as a waterbody/beach closure?

- a. No, this is just an advisory and it would be up to waterbody managers or an appropriate authority to close the waterbody or beach.
- e) Is boating and jet skiing considered in the study? There were many questions last summer regarding the protection level need for these types of activities.
 - a. There is no formal definition of what constitutes as a contact recreational activities are and so it is up to the state to determine.
- f) Who and how is a recreational (swimming) season determined.
 - a. It is usually defined in the state water quality control plan or by the health department.
- g) Why is there not anatoxin-a?
 - a. There was anatoxin-a in the study however the peer reviewers felt that there was not enough data on anatoxin-a to publish.
- h) . Whose decision would it be for swimming closures?
 - a. States describe what recreational activities happen and during what seasons this happens in their water quality standards. The health department may have different advisories set as well.
- i) For the reference dose (RfD), what kind of review was used to decide on the Lowest Observed Adverse Effect Level (LOAEL) and the No Observed Adverse Effect Level (NOAEL)?
 - a. We would need to go back and review what the peer reviews said. The microcystins went through peer review 3 times and an agency review. There were some developmental studies that were considered.

4) Satellite Tool Demonstration – Tony Hale -Presentation will be available on CCHAB workgroup web page.

- a) Satellite tool uses historical data on 255 waterbodies; these waterbodies meet the minimum size requirement of 18 pixels which is 300x300 meters.
- b) A status and trends report for these waterbodies will be released soon.
- c) Currently there is data being transmitted from the satellite.
- d) The satellite uses color wave length absorption to determine if there is a bloom.
- e) The satellite can tell whether the bloom is a cyanobacterial bloom or some other bloom.
- f) The data is collected for 10 days and then it is compiled into a single color (heat) map. The composite map is to help avoid days where there may be cloud cover blocking the water body. When there is cloud cover the map for that day would likely show no bloom. A 10 day composite map shows blooms based on the highest reading during those 10 days. The map is using the high value for each pixel over the 10-day period to create the composite map.
- g) The tool is still in the review state.
- h) It is envisioned that there will be more context for the data on the interface page.
- i) The redlines on the slider are more information pulled from California Environmental Data Exchange Network (CEDEN).
- j) Another future tool will be to add status and trends for each waterbody on the map.

Questions

- a) How are you determining a Microcystin bloom from another type of bloom?
 - a. NOAA provides algorithms with at 70% certainty.
- b) Does the satellite tool only measure Microcystins?
 - a. Microcystin is just a proxy, there is consideration in using Microcystin equivalent
- c) How current will tool be once it is fully operational?
 - a. It will be updated every 10 days.

- d) How will fog affect the tool?
 - a. Fog affects the satellites the same way as cloud cover. When there is persistent fog the satellite can't make an accurate finding. There is hope that a resource such as using drones or planes will be able to fly over fog/cloud impacted waterbodies.
- e) Is the tool also reporting cyanobacteria figures such as cell density?
 - a. It represents cyanobacterial index- other species compose this index. We may not be able to tell the exact number of cells/ml of each species but we can determine other species that are present.
- f) Have you considered phycocyanin as another analyte to detect cyanobacteria? Need to go into WQX also to gather data and report on the tool.
 - a. Bev helped determine the analytes measured.
 - b. We may not have the data in CEDEN, without it we cannot report and present on the tool.

5) Subcommittee updates

Statewide Guidance Subcommittee – Zane Poulson and Sandy McNeel

- a) There are currently drafts of the Decision tree, narrative, action levels and signs for the Draft Guidance document on the portal and the CCHAB workgroup web page.
- b) Draft of additional updates the rest of the Guidance Document being reviewed and compiled by the guidance subcommittee.
- c) The guidance subcommittee is looking for technical or subject matter experts within the CCHAB Network to peer review The new Guidance Document.
- d) One issue to keep in mind is that the document needs to be careful about information that can change periodically. This would make updating the document very time-consuming.
- e) We are looking for someone who is interested in creating an eye-catching cover page for the document.

WEB Portal – Architecture Subcommittee – Jon Marshack

- a) The drinking water impacts section on the portal has new information in it.
- b) Photographs of HABs and non-HABs are coming in; in the near future, the identification section of the portal will become available.
- c) The satellite imagery page will be available once the tool is finished. `21

Education & Factsheets Subcommittee – Reggie Linville

- a) There has been a fact sheet created for veterinarians. A few things this fact sheet provides are treatment and methods for taking bio-samples.
- b) The fact sheet is now being reviewed by 3 veterinarian experts, California Department of Public Health (CDPH), and the Office of Environmental Health Hazard Assessment (OEHHA).

Questions

- a) What about pet owners?
 - a. It is on the list but no work has been done yet.
- b) How do you plan to get this information to vets?

- a. There are plans to post the fact sheet on the portal and the CCHAB web page. There is hope to do educational outreach and distribute the fact sheet to veterinarians.

Monitoring & Assessment Subcommittee – Bev Anderson-Abbs

- a) This subcommittee has not met since the last CCHAB Network meeting.
- b) Lori Webber will be taking over for Bev.

Questions

- a) What kind of work products do you see happening for this year?
 - a. The sampling SOP's should be up by May.

Data Subcommittee – Proposed at June 30, 2016 CCHAB Network meeting – Marisa Van Dyke

- a) This subcommittee needs members, please email Marisa Van Dyke or Zane Poulson if interested.
- b) This subcommittee is focusing on the best ways to get data into CEDEN.
- c) If you have any data, relevant to CCHABs please send the data to Marisa.

Mitigation Subcommittee – Carrie Austin

- a) This subcommittee needs specialized member such as permit writers. The subcommittee also needs to think about what it can realistically accomplish and what people want out of this subcommittee.

Questions

- a) When can I treat a bloom, what is my responsibility if I don't treat a bloom and what is my responsibility I treat a bloom and a negative impact happens such as an oxygen crash?
- b) Downstream beneficial uses (listed and existing) need to be considered when issuing a National Pollution Discharge Elimination Permit (NPDES).
- c) What permits are needed to install equipment for mitigation, e.g. Oxygenators.

Wildlife Impacts Subcommittee – Reggie Linville

- a) Fish and wildlife are big participants in this subcommittee
- b) The current goal of this subcommittee to prepare for an event, such as a wildlife death.
- c) The Department of Fish and Wildlife is in the process of putting together wildlife sampling kits.
- d) A list of contacts and wildlife hotspots are being compiled now.

Proposals for other subcommittees – All

- a) None

6) California Water Quality Monitoring Council update – Jon Marshack

- a) California Water Quality Monitoring Council approved of the web portal.
- b) Jon will be retiring in 4 months.
- c) The California Water Quality Monitoring Council was very interested in the HABs presentations at the December 13, 2016 meeting.
- d) The next Monitoring Council meeting is Feb 28th in the Klamath room
- e) The following meeting will be May 23rd in Costa Mesa
 - a. If we want to present the updated guidance document for endorsement before the bloom season, we need to consider that the Council only meets quarterly.

* Note: The Legislation is inquiring about marine impacts from fresh water HABs. Shellfish are not monitored for freshwater HAB toxins but could potentially contain these toxins.

7) Cyanobacteria mitigation products and permits - Russell Norman the Presentation will be available on CCHAB workgroup web page.

- a) There is currently a bill in Congress (H.R. 897) that would prohibit the State or EPA from issuing an NPDES permit for Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) approved pesticide active ingredients and residues.
- b) Currently only pesticides are listed under the permit. E.g., Alum is not listed in the permit because it is not a pesticide.
- c) New pesticides can be added to the list however, they have to go through FIFRA as well as the California Department of Pesticide Regulation.
- d) Algae control approaches within the NPDES framework include:
 - a. Algaecides and herbicides approved for aquatic use
 - b. Dyes approved for aquatic use
 - c. Anionic polyacrylamide & oxidizers
 - d. Flocculants and coagulants: alum, ferric salts, clay, polyaluminum chloride, PhosLok™
 - e. Barley straw
 - f. Biological manipulation with bacteria and viruses
- e) Algae control approaches outside of the NPDES framework
 - a. Mixing/Aeration
 - b. Ultra Sound
 - c. Floating artificial wetlands
 - d. Mechanical harvesting
- f) California has a general permit for aquatic pesticide application: Water Quality Order 2013-0002-DWQ, General NPDES Permit CAG990005.
- g) EPA also has a general permit.
- h) Monitoring is submitted through electronic submittal of monitoring reports (ESMR)
- i) There are three types of monitoring, visual, physical and chemical.
- j) An application log must be kept.
- k) There must be six samples taken per environmental setting per year. After a year sampling can be done once per environmental per year.

Questions

- a) Have the executives given any direction of creating a general permit for non-pesticide categories?
 - a. General permits are cheaper and more streamlined however, there have not gotten enough inquiries to justify the effort for creating a general permit for "other"
- b) How often is the California general permit updated?
 - a. Every 5 years, however this may get stretched out, there was a 9-year period at one point. The general permit is reviewed every time a new pesticide is added. They will be reopened in 2018 for re-adoption unless the Federal Bill passes.
- c) Would biological opinion still be relevant?
 - a. Yes
- d) Is the general permit under the California Porter Cologne act or the Clean Water act?
 - a. It is under the Clean Water act which requires regulation of pesticides listed under FIFRA.
- e) Numeric receiving water objectives, do they need to be met before or after the pesticide application?
 - a. Both, before and after application.
- f) Where is the data required for monitoring going? Can other things be monitored such as toxin release after an application to a [HAB] bloom?
 - a. Possibly if the monitoring section is amended by the executives or when the permit is up for reapplication through hearings it can be added in.
- g) Do you point out possible issues during application such as a drinking water intake?
 - a. No
- h) Permit calls out Outstanding Resource Waters (ORWs) like Lake Tahoe
 - a. There may be a waiver for the Tahoe Keys
 - b. If an exemption is issued then a permit may be issued
- i) The adding up of application events, how is this figured?
 - a. The number is counted by the number of individual applications that are done on a specific water body

8) Update on 2016 Lessons Learned from the December 12th workshop – Bev Anderson-Abbs

- a) During the 2016 bloom season, the media and public seemed to become more aware of the issues.
- b) Some lakes had only one type of HAB species with low toxin levels such as Shasta. Some had one type of HAB species but extremely high toxin levels such as Discovery Bay with Microcystins at 100 µg/L. Some places had multiple types of HAB species such as Lake Elsinore with 10 different species. This shows that harmful algal blooms are complex and diverse across the state.
- c) It is important to know where all the documents are, who to call/contact and have a pack up person to who knows all the all the documents are and who to call/contact about a bloom.
- d) It is important to know the Blue-Green Algae Draft Voluntary Guidance Document and the 2016 Updates before an event happens.

- e) Have talking points ready for the media. The message to the public need to be uniformed across the state to provide an accurate picture of the situation and not cause over dramatization.
- f) There needs to be a standard way to take samples and know which labs to send them too. SWAMP can give guidance if needed.
- g) There needs to be a basic understanding that blooms can change rapidly and spread to a different area by current or wind. One species can die off and another can species can bloom right behind it.
- h) Review reports and tools
 - a. The reporting form is hard for the public to use
 - b. There needs to be continued support from OIMA
 - c. There need to be field SOP and toxin interpretations
 - d. The press release template needs updated and there needs to be more use of social media to get information out to the public.

9) Update on Harmful Algal Blooms (HABs) around the state – All CCHAB Network members (15 minutes)

R1: Doing educational outreach and creating helpful documents.

R2: No significant blooms. East Bay Regional Parks did testing on fish, most were non-detect, only one fish had a small amount of toxin.

R3: Not present.

R4: Not present.

R5: Bloom season ended in December. Clear Lake is clean. Next month [February] monitoring twice a week begins. Shasta/ Lake Britton and Orville are all clean now. Lake Britton's bloom lasted well into the fall so it was hard to determine when the bloom was over.

R6: No update.

R7: Not present.

R8: No update.

R9: No update.

Questions

- a) Did California have more or the same amount of HAB related problems as the rest of the United States.

10) EPA/CA SWRCB/SWAMP HAB Workshop Series

- a) Webinar will be April 4 or 5. This is intended to be an introduction to HABs for people who are not as familiar with the problem.
- b) The meeting will take place April 25-27 at the Southern California Coastal Water Research Project (SCCWRP) building in Costa Mesa, CA.

11) Call out for future agenda items – All

- a) Tribal Beneficial Uses.

- b) Event response.
- c) Bio stimulatory substance/ integrity project.
- d) When to respond to a bloom, such as when to apply pesticide and who to contact before doing so.
- e) State of the science.
- f) Coordination on event response
- g) Building resilience back into the watershed

12) Next CCHAB Network Meeting

A doodle poll was sent out. The result of the poll is that the next CCHAB Network meeting will be April 13, 2017.

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