

NJDEP 2022 HAB Summit—Q/A from Chat

March 23, 2022



Each question and answer reside in its own section.

[3/23 10:23 AM] Swarna Muthukrishnan (Clean Ocean Action)

Hi Ben, Swarna from Clean Ocean Action. Were you able to investigate reasons for fish kills?

[3/23 10:45 AM] Ben Holcomb- Utah DWQ (Guest)

Swarna-- fish killed due to cyanos choking gills. Surprisingly, hypoxia wasn't the issue. The bats had excessive microcystins in their system per USGS Wildlife Lab.

[3/23 10:30 AM] Newby, Robert [DEP]

Ben, do you think case reporting drops are a result of more public awareness of the problem? Or do you think there might be something going on with the species that is resulting in fewer adverse encounters?

[3/23 10:47 AM] Ben Holcomb- Utah DWQ (Guest)

Rob-- I interpret it to mean that the public is more likely to avoid bloom areas-whereas in the past, there was no consideration and exposure led to symptoms.

[3/23 10:31 AM] Clemons, Danielle [DOH]

Ben are your health departments involved with the reporting process or does the public self-report any symptoms?

[3/23 10:52 AM] Ben Holcomb- Utah DWQ (Guest)

Danielle-- the Local Health Depts. are integral to the program-- there is a spectrum of their interest/resources across the state. Some are partners with sample collection and some still believe that HABs don't exist in their area! Nonetheless, if they receive a HABs report, they pass it along to us. And if the public experiences symptoms, they route them to Poison Control.

[3/23 10:37 AM] Fred Lubnow (Guest)

Air curtains were also shown to be effective at controlling HAB in beach areas at Lake Hopatcong.

[3/23 11:04 AM] Ben Holcomb- Utah DWQ (Guest)

Fred-- thanks for sharing; that's good to know. We were planning to explore that option.

[3/23 11:08 AM] Fred Lubnow (Guest)

Yes, it can work depending on the local circulation patterns and the associated design. Specifically, we saw a decline in cyanobacteria cell densities in the air curtain zone relative to outside of the zone.

[3/23 10:40 AM] Carrie Springer (Guest)

Does the NP service close off access to the river when blooms are high?

[3/23 11:03 AM] Ben Holcomb- Utah DWQ (Guest)

Carrie-- they have had various levels of success closing access. It's not heavily enforced. The primary risk is the ingestion of the mats, not necessarily the water. So, that's what's primarily communicated.

[3/23 10:46 AM] Christa Reeves

Ben, do you have any citizen science/volunteers being trained to identify and report HABs, especially in the high mountain regions that are hard for you to cover?

[3/23 11:09 AM] Ben Holcomb- Utah DWQ (Guest)

Christa-- thanks. We partner with Utah State Univ. who organizes statewide WQ volunteers that collect samples and report blooms. They along with the general public typically alert us to these conditions. It still feels like a drop in the overall bucket.

[3/23 11:16 AM] Christa Reeves

Ben-TY. My Watershed Association just started a volunteer led HABs monitoring project and were blown away by the amount of engagement and the reach these very dedicated community members had, it was invaluable. Like you said, you can only be in so many places and have limited time.

[3/23 10:53 AM] Heather Ronco (Guest)

Is there any funding assistance to lakes without public access?

Response provided by Larry Torok and Paul Hauch, NJDEP on 3/28: The qualifying entity criteria provided in the appropriations bill relative to Lakes Stormwater Management grants funding includes:

1. Greenwood Lake Commission.
2. The Lake Hopatcong Commission.
3. A local government unit.
4. An entity established as a joint meeting pursuant to law or an entity established pursuant to ordinance by the municipalities surrounding a publicly accessible lake for the management of the lake
5. A nonprofit organization recognized by the Internal Revenue Service under Section 501(c)(3) of the Internal Revenue Code and whose mission is the management of a publicly accessible lake.

Funding is available through the Clean Water State Revolving Fund; however, the borrower must be owners of publicly-owned treatment works (towns, boroughs, municipal utilities authorities, counties, regional water authorities, other local government units) with projects that help protect, maintain, or improve water quality.

[3/23 11:12 AM] Michelin, Virginia

Nathaniel Sajdak, how often have you been able to modify your plan since originally approved by the NJDEP? Or have you?

Response provided by Nathaniel Sajdak, SCMUA on 3/31: The direct answer is we have never modified any of our plans once they were approved by NJDEP, and we really have not had a reason to do so. We have, however, often referenced the plans, or even used specific content from the plans in various grant proposals or scopes of work we have written, and in some of those cases updated the information we used to include new and/or revised/current information. I have to say, NJDEP has always been very cooperative with us in how we have used, and continue to use, our previously developed plans.

[3/23 11:20 AM] Sutton, Robin

Other than the Septic system Maintenance booklet, what educational tools did you use for homeowners who reside around a body of water with regards to the prevention of HABS

Response provided by Nathaniel Sajdak, SCMUA on 3/31: Our organization hosted a public in-person educational training workshop at Culver Lake (Frankford Township), in partnership with Rutgers Cooperative Extension Water Resources Program, to raise awareness about various lake management and waters quality concerns, stormwater impacts, and things lake community homeowners can do to help address these problems. This workshop then dovetailed into one-on-one coaching sessions about how to design and build a ran garden on their specific property / at their own home. We are planning to hold more of these sessions in the future for neighboring lake communities.

[3/23 11:33 AM] Fred Lubnow (Guest)

Hey Kim - to confirm, are the target conditions based on a seasonal mean TP concentration?

[3/23 11:58 AM] Cenno, Kimberly [DEP]

It is the annual pollutant load rather than the load at any particular time that determines overall lake water quality, the target phosphorus concentration of 0.03 mg TP/l accounts for critical conditions". FROM Lake Hopatcong TMDL Document.

[3/23 11:43 AM] Matos, Rita Isabel

Hi Kim - what is the timeline for the implementation of the revised TMDL to go through the different phases to have eventual full implementation throughout the state?

Response provided by Kim Cenno, NJDEP on 3/29: The Bureau of Environmental Analysis, Restoration and Standards will be revising 3 Lake TMDLs from 2004 for Greenwood Lake, Swartswood Lake and Lake Hopatcong in order to serve as an additional tool to protect these lakes from HABS. The TMDLs will each have a detailed Implementation plan to address source control of nonpoint sources pollutants which are a potential source of HAB formation. The TMDLs will be stakeholdered this Spring. After stakeholdering, the TMDLs will posted for public

comment through the New Jersey Register before the end of 2022. The Implementation Plan for the TMDL and details will be laid out in the TMDL Implementation section of the document.

[3/23 12:27 PM] Alessandra Rossi

My question is for Kimberly Cenno: I was wondering if the review of the TMDLs for Lake Hopatcong and Greenwood Lake will include also an updated internal load component. In the past, the two TMDLs were also revised but their internal load component was not updated.

[3/23 12:36 PM] Cenno, Kimberly [DEP]

We will confirm the internal and revise as needed.

[3/23 1:04 PM] Tom Sheppard

I am a naturalist with a county park system. I do monitor ponds on our parkland and have 4 small ponds with HAB history. Other than posting warning signs and promoting education on HAB, we are limited in what we can do for preventive action. If each HAB issue is pond specific as Fred has stated, is there a contact through DEP that can help draft a pond management plan for the HAB?

[3/23 1:06 PM] Fred Lubnow (Guest)

Hey Tom - as a County Park System should be eligible for the development of lake and/or watershed implementation plans. If the 4 lakes are bundled together there would be a cost savings. The Plan can include long-term management measures (watershed) and more short-term in-lake measures that focus on preventing and controlling HABs.

[3/23 1:07 PM] Fred Lubnow (Guest)

Tom - let me know if you want to speak further.

[3/23 1:07 PM] Tom Sheppard

Fred - email is Tsheppard@co.hunterdon.nj.us

[3/23 1:59 PM] Carrie Springer (Guest)

Hi Nicole, are wild animals such as fox, coyote, deer, waterfowl, etc. affected by the toxins like domestic pets and livestock are?

[3/23 2:09 PM] Lewis, Nicole [DEP]

Hi Carrie, there is very little information out there on the impacts in mammals, it is more well known in waterfowl and other bird species as I mentioned. It is, however, always recommended that if these animals are found near a known HAB site that you alert me so that we can investigate and hopefully gain a better understanding of the impacts in the mammals you mention.

[3/23 2:11 PM] Carrie Springer (Guest)

Thanks Nicole. I suppose the information on amphibians and reptiles is also limited?

[3/23 2:13 PM] Lewis, Nicole [DEP]

Extremely limited, however, I will say that we had (which you may have heard) a shell disease issue in turtles in southern NJ. We are currently analyzing the samples collected from these affected animals compared to some unaffected animals from other sites. The sites where these affected turtles were found also had the presence of a HAB and it is thought that this played a role in the findings but was not the one and only cause. But like I said we are just getting those samples analyzed and tested now for HABs as well as various diseases so more information will be out on that in the hopefully near future.

[3/23 2:14 PM] Lewis, Nicole [DEP]

The challenge is finding these deceased animals when it occurs, so they are not too decomposed to collect useful data from

[3/23 2:08 PM] Emily Simons

Nicole, can you recommend any emetics for emergency over the counter use? i used to use hydrogen peroxide but have met some dogs that just will. not. vomit.

[3/23 2:11 PM] Lewis, Nicole [DEP]

You are right, hydrogen peroxide is always the go to but doesn't always work unfortunately, In a clinic setting there is a pill that goes under the eyelid that makes them vomit but even that doesn't always work. Unfortunately, there is no other option other than hydrogen peroxide, but it is very safe so you can give more doses (with the guidance of your vet) as needed.

[3/23 2:16 PM] Julia Somers

Taylor, a substantial area of Warren County is underlain with karst limestone. Are the stormwater management recommendations different in any ways for large scale development on karst?

[3/23 2:32 PM] Coppa, Taylor [DEP]

Julia, Great question. The Toolkit provides general best management practices for management. We did not break it down by amount of development or impervious surfaces. I'd recommend taking a look at the Improving Stormwater Management page under the Management Entity tab.

[3/23 2:17 PM] Coppa, Taylor [DEP]

Stormwater Toolkit link - <https://www.nj.gov/dep/floodresilience/toolkit.html>

[3/23 2:37 PM] Mike Pisauro-Test

The Watershed Institute Director of Science- Steve Tuorto- stuorto@thewatershed.org

[3/23 3:10 PM] Fred Lubnow (Guest)

most alternative systems do have limited P removal. The peat Biofilter can get decent removal rates of P (about 50%). However, we know of some companies that are augmenting leachfields with processed Biochar to enhance N, P and microbes.

[3/23 3:19 PM] Mara Tippet

It is my understanding that access to no-interest loans through the Smart Growth Financing Program for septic repair/replacement requires the establishment of a Septic Management District by local gov. or MUA. I'm aware of very few SMDs in NJ. Can anyone point me in the direction of resources for municipalities considering this option or touch on this topic? Thanks!

[3/23 3:21 PM] Fred Lubnow (Guest)

Not sure about Districts but I know both the Township of Jefferson and the Township of West Milford had Septic Management Plans. We assisted in putting those plans together through 604(b) funds and have been effective with both pump-out and education.

[3/23 3:34 PM] Seegers, Bridget N. (GSFC-616.0)[MORGAN STATE UNIV.]

For the CyAN apps you can use this link

<https://www.epa.gov/water-research/cyanobacteria-assessment-network-application-cyan-app>

For the full CyAN data set with background info and trainings and much more.

<https://oceancolor.gsfc.nasa.gov/projects/cyan/>

[3/23 3:38 PM] David Hsu (MSU) (Guest)

Dr. Seegers, does CyAN project have any plans on applying imagery from other satellites (such as Landsat) for small lakes (< 300m)?

[3/23 3:50 PM] Seegers, Bridget N. [MORGAN STATE UNIV.]

Hi David Hsu, the current version on CyAN is focused on the 300m. The bands on OLCI are better for cyanobacteria. But we know there is much interest in smaller lakes so there is talk about a CyAN 2.0 project that would look at other sensors options. Landsat and some of the other sensors don't have the bands we use for cyanobacteria, so the product maybe chlorophyll rather than cyanobacteria estimates.

[3/23 3:40 PM] Donna Macalle-Holly

Hi Vic, When the ASV coming to Lake Hopatcong? Looks so cool.

Response provided by Vic Poretti, NJDEP on 3/28: If feasible to use on Lake Hopatcong, the Foundation and Commission will be notified ahead of time.

[3/23 3:41 PM] Julia Somers

How do you make sure it isn't damaged by some unwitting boater?

Response provided by Vic Poretti, NJDEP on 3/28: The unit has a camera to see what is in front of it. If there is a potential obstruction, we can switch to manual controls to avoid hazards.

[3/23 3:45 PM] Meiyin Wu (Guest)

Vic, Thank you for the excellent presentation. What is the water depth that the data being collected from?

[3/23 3:47 PM] Poretti, Victor [DEP]

Meiyin - technically the surface but it can extrapolate out to a certain extent.

[3/23 3:46 PM] Reilly, Pamela A

Vic - To add on Dr Wu's question, can you adjust depth that the monitor is set?

Response provided by Vic Poretti, NJDEP on 3/28: It measures the surface conditions but can extrapolate out to a certain extent.

[3/23 3:49 PM] Fred Lubnow (Guest)

Hey Vic, do you know if there are issues with interference in collecting data in lakes with high densities of aquatic vegetation?

[3/23 3:50 PM] Poretti, Victor [DEP]

Fred - it is supposed to be able to map vegetation
