

Remaining Questions and Answers

Public Information Session for EarthTec Treatment of Harmful Algal

Blooms (HABs) in Skaneateles Lake

Thursday, September 16th, 2021

- I was looking over the City's application. On page 5...under "special conditions" it states the City will develop the Pesticide Management plan, one month *after* the issuance of the permit and it will be kept "in-house"(not submitted).
 - Do you feel the Skaneateles Lake shareholders can effectively comment without actually seeing the Pesticide Management Plan beforehand?
A draft Pesticide Discharge Management Plan (PDMP) will be updated and posted on the skanlakeinfo.org website following issuance of the State Pollutant Discharge Elimination System (SPDES) Permit.
 - In the interest of transparency, why wouldn't the Pesticide Management Plan be submitted to the DEC beforehand? Wouldn't it be prudent for the plan to be submitted for review? **The City will update the draft PDMP in accordance with Pre-Treatment requirements indicated in the SPDES Discharge Permit and will post to the Skaneateles website once the update is complete.**
 - What is the actual process and parameters for spraying, and is there anything you can share with regards to any draft Pesticide Management Plan? **See updated PDMP when complete.**
- How long does the Earthtec remain active in the water? **Until it's bound up / consumed by algae or bacteria. Usually around seven days.**
- How long would it take Earthtec to reach adjacent bodies of water, say 30 miles away, via very slow-moving creeks draining Skaneateles Lake? **It's unlikely any residual copper from an EarthTec would reach 30 miles away because it will be consumed by the algae that it is being applied to target. If any copper residual escapes the immediate treatment zone, it should be consumed before it leaves the lake, and certainly within the 30-mile trajectory towards the next water body, which is lined with many other organisms that consume copper.**

- Can Earthtec be neutralized once it has done its job? **When the copper acts on the algae it complexes with the organism and becomes biologically inactive.**
- We live on the north end of the lake and draw our water directly from the lake...how will this affect the water that we drink?? **Not at all as EarthTec is EPA and NSF approved to be fed directly into a water treatment plant. The EPA limit for copper to be distributed from the water plant to a home is 1.3 PPM, EarthTec will be applied to a small portion of the lake at a much lower rate, 0.18 ppm.**
- If EarthTec remains in suspension up to 2 weeks why is its application to the lake only in north basin, thus imposing restrictions to folks in same treatment zone, perhaps threatening the ecology, fish, good algae, and even animals and humans in that zone repetitively? Indications for treatment as defined in SPDES permit ?

The objective of an EarthTec application is to decrease densities of microcystin producing cyanobacteria, and ultimately reduce microcystin concentrations within the treatment zone around the City's drinking water intakes. There are no restrictions within the treatment zone following an EarthTec application.

Should its use in a water body the size of Skaneateles Lake (432 billion gallons) be considered "experimental"? **No. EarthTec has been applied to many large potable water reservoirs for over 30 years. Lake De Forest in NY is approximately 900 acres and EarthTec is applied there very successfully.**

Is the description of the location of the city pier correct at the DEC launch in the SPDES permit , i.e., at the DEC launch? **The Skaneateles pier location is not labeled correctly on the Draft Permit aerial photo. The pier is located just E. of the Village of Skaneateles bathing beach.**

- What affiliation does Dr. David Hammond have with EarthTec? ALS? Anecdotal at best?? **David is the Vice President of Applications Development Earth Science Labs, Inc. See links below to publications:**

<https://www.mdpi.com/1422-0067/22/16/8726>

<https://www.mdpi.com/2072-6651/7/2/322>

- How is the copper suspended so that it is not settling out? **Patented formulation.**
- How is the quality of the application and ingredients monitored? **See PDMP.**
- Is this treatment safe for our animals that swim and play in the lake? (dogs?) **Yes**
- Is there any offgassing of the treatment that we should be aware of? **None**
- Swimming pools don't have wildlife. Can we talk about what it will do to animals, fish, etc. and please also address the conditions where EarthTec was used on another lake

and a case study of impact short or long term? Thanks! P.S. Are there case studies? Or is a lack of information out there? [See David Hammond's presentation for information on case studies.](#)

- ^^ Thanks for addressing wildlife ... my question remains about the case studies/studies around use. How much info do we have? Additional case studies are
- Village of Skaneateles Trustee: Has the use of this substance been discussed with personnel at the Skaneateles Wastewater Treatment Plant? Is the use of this substance compatible with the operations of the treatment plant? [EarthTec ionic copper is approved for algae control in drinking water facilities. Hundreds of municipal water utilities have applied EarthTec to their drinking water which discharges to wastewater treatment plants following use.](#)
- Copper sulfate is a molluscicide and toxic to rainbow trout. Will treatment levels kill zebra and quagga mussels inshore and thereby lower dissolved oxygen levels when they decay? [See David Hammond's presentation regarding eradication of quagga mussels in a Pennsylvania lake.](#) Also, will trout in Skaneateles Creek be harmed by Earthtec in suspension that outlets to the creek? [EarthTec is used in aquaculture fish farms.](#)
- How exactly does copper sulfate target cyanobacteria? I was under the impression that it was more for controlling plant life, not phytoplankton. [Copper interferes with the cyanobacteria metabolic process of respiration and photosynthesis and stops the cell from producing waste products.](#)
- I am not sure I got answer. Mark said it could be applied by a certified applicator or a technician under direct supervision. Again what does direct supervision. Does that mean that a certified applicator has to be present at the site of application. Would that mean the certified applicator has to be out on the lake while the technician is applying the product. [A commercial pesticide applicator certified by the NYSDEC under Category 5a \(Aquatic Vegetation\) will be physically present during the EarthTec application.](#)
- Can David put his presentation up on YouTube with audio? [Yes. All presentations will be available for viewing on YouTube and skanlakeinfo.org.](#)
- I thought by killing the cyanotoxins you release more microtoxins into the water which are actually toxic and cannot be treated by chemicals and needs to be filtered? [Research and case studies have shown that EarthTec does not cause sudden cell lyses which results in release of microcystins.](#)
- How does the wind forecast come into play where if you have triggers that call for application on a calm day but prior to anticipated winds - esp north winds blowing south.

If water quality triggers indicate an EarthTec application is warranted, forecasted winds (N. or S.) following a selected application date will be considered by the Commercial Pesticide Applicator and City.

- David mentioned ultrasound and aeration has been used in the reservoir. Do these modalities help control HABs and have they been tried in Skaneateles lake. Ultrasonic devices and diffused aeration are both used effectively in controlling algae in Woodland Reservoir (120 million gallon capacity). **The technology has not been used in Skaneateles Lake.**
- What were the reasons for cessation of copper sulfate use historically? **Skaneateles Lake Annual Reports and reports from consulting biologists indicated improvements to Skaneateles Lake water quality. Copper treatments transitioned from Skaneateles Lake to the city's reservoirs.**
- Has there been any negative effects from the copper sulfate that was used previously in Skaneateles Lake & why was that application discontinued? **No reports or documentation has been located that references a negative impact to the aquatic habitat, benthic community, etc. No reports of fish kills during / following copper sulfate treatments found in historical documents.**
- Can David post his missed presentation to youtube? **Yes**
- With the specific SPDES permit and this, can you note regarding the permit renewal process? Is it annual? **The draft SPDES Permit allows for two EarthTec Treatments per year. There is no effective date or expiration date provided on the draft SPDES Permit. With other preferable technologies and strategies coming online and in the event the permit is approved, will the City be locked into the use of EarthTec or will there be incentives to incorporate the new tech/strategies? The City continues to evaluate algae control technologies. Many of the treatment technologies are still in the development stage, are considered experimental or provide for a very limited treatment area, i.e., two – five acres per day. The draft SPDES Permit for EarthTec allows for a treatment area of 570 acres.**