I. Opening of Meeting/Open Public Meeting Statement

a. In accordance with the Open Meeting Law, The Lake Hopatcong Commission has caused notice of this meeting to be published by having the date, time, and place thereof delivered or mailed or electronically mailed to the following:

DAILY RECORD and posted on the Lake Hopatcong Commission website (lakehopatcongcommission.org)

II. Salute to the Flag and Moment of Silence

III. Introduction

Chairman Smith provides an overview of the meeting and introduces members of State and Local Government in attendance.

IV. Roll Call

Present: Mark Crowley, Mark Fisch, Daniel McCarthy, Joshua Osowski, Anne Seibert-Pravs, Fred Steinbaum, Todd Stevens, Robert Tessier, Ronald Smith

Absent: David Jarvis, Joel Servoss,

Alternates Present: Eric Wilsusen, Tom Sellaro, Neil Senatore,

With nine members present, Chair Smith declares a quorum. Commissioner Wilsusen arrives at 7:05pm. Commissioner Pravs arrives at 7:10pm

V. Executive Session

No executive session.

VI. Approval of Meeting Minutes

Chair Smith entertains a motion to approve the minutes. Commissioner Wilsusen makes a motion to approve the minutes and Commissioner McCarthy seconds the motion.

Roll Call:

Crowley	Yes	Steinbaum	Yes
Fisch	Abstain	Stevens	Yes
McCarthy	Yes	Tessier	Yes
Osowski	Yes	Wilsusen	NA
Pravs	NA	Smith	Yes
Sellaro	Yes		

The motion passes 8-0-1 (1 abstentions)

VII. Treasurer's Report

Chair Smith entertains a motion to approve the list of bills. Commissioner Fisch makes a motion to approve the list of bills, Commissioner McCarthy seconds the motion. Roll Call:

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	Crowley	Yes	Steinbaum	Yes		
	Fisch	Yes	Stevens	Yes		
	McCarthy	Yes	Tessier	Yes		
	Osowski	Yes	Wilsusen	NA		
	Pravs	NA	Smith	Yes		
	Sellaro	Yes				

The motion passes unanimously.

VIII. Correspondence

Colleen Lyons provides an update on correspondence and indicates all correspondence was sent to the Commissioners prior to the meeting for review.

IX. Lake Hopatcong Foundation Updates

Jessica Murphy provides and update for the Lake Hopatcong Foundation. She states that the Foundation shares in everyone's frustration with the advisory against swimming and other activities on Lake Hopatcong. In 2018 the Foundation began a strategic planning effort which included 12 overarching goals. She states that three of the twelve goals are water quality solutions, advocacy, and bringing together town leadership. Ms. Murphy lists the projects completed by the Foundation to improve Lake Hopatcong over the past year. She states that the Foundation is confident that by working together with the Commission, and Local and State Officials they can will be successful in achieving goals to improve Lake Hopatcong. She states that the Foundation is hosting the Smithsonian Waterways exhibit and Wild and Scenic Film Festival. The Mount Arlington and Roxbury Public Libraries are hosting "what is your water story" on July 25th at 6:30pm in Mount Arlington and July 30th at 6:30pm in Roxbury. She states that water scouts have been responsive in checking their assigned areas, although they are advising them to be careful if they are on the lake paddling before the advisory is lifted. The Lake Stewards will begin their shifts at Lee's County Park to educate boaters on preventing the spread of invasive species. She states that dock numbers ordered this spring should be available within the next few weeks.

X. NJDEP Presentation

Commissioner McCabe states that she was out on the lake this morning with other DEP employees this afternoon and understands how upset everyone is to have the

harmful algal bloom on Lake Hopatcong. She states that the DEP will be conducting aerial flights once per week and water testing on Tuesday and Thursday each week. Results will be available on Wednesday and Friday of each week. She states that testing done through last Friday has not shown much change in the concentration of the HAB. She states that rain can either help by washing some algae out or it can flush more nutrients into the lake and make the HAB worse. She states that the DEP has posted a new website where all of the testing results for Lake Hopatcong will be posted. The swimming advisory remains in effect due to the risks of rash, gastroenteritis and respiratory tract irritation. Pets and small children are more susceptible. She states that boating is still an option.

Leslie McGeorge, Administrator of the Bureau of Freshwater and Biological Monitoring for NJDEP. She introduces Bruce Friedman Director of the Bureau of Water Monitoring and Standards, Johannes Franken the Lakes Monitoring Manager, Rob Lubee a Microbiologist with the Division of Science and Research. Dr. McGeorge states that the State has a HAB recreational strategy and the steps that they are taking are part of that strategy. Cyanobacteria are naturally occurring in waterbodies, but it is not natural for it to increase in density and become visually identifiable blooms. This is an indication of something out of balance in a lake. She states that when a bloom occurs they can produce cyanotoxins, but even if blooms do not produce toxins they can have effects such as rash, gastroenteritis and respiratory tract irritation. She states that the DEP is concerned about blooms with high cell density and those that are producing cyanotoxins. She states that the risks include flu-like symptoms, rashes, and high toxins can cause nervous system impacts. Wildlife, pets, livestock, and fish can be affected. She states that blooms are caused by many complex causes, but it is indicative of an ecosystem out of balance. Typically, nutrient enrichment and calm, warm weather can cause it. The State developed a response strategy due to global incidence and concern. The primary concerns of their response strategy are recreational and drinking water exposure, which was developed by an interagency work group who developed the thresholds they use to monitor results. The purpose of the strategy is to have a unified approach across the State programs. She states that to report HAB's people can call 1-877-WARN-DEP or use the warn NJDEP mobile app. She states that the HAB response is a tiered response focused on reducing the greatest levels of exposure at swimming beaches and youth camps. They work with local health departments and the State Department of Health to limit exposure recreationally and in drinking water. She states that they monitor through visual observation, field screening, strip tests, and detection of phycocyanin and lab identification of species and cell counts. She states that if the cell count is above 20,000 cells/mL they are concerned about human health. DEP will issue two types of warnings, yellow for suspected HABs, and red for confirmed HABs. The 2019 HAB is the first of this aerial extent that DEP has encountered. The USGS and DEP will be deploying

continuous monitoring buoys which will help them understand the water quality of the lake and changes in the lake. Buoys will monitor dissolved phosphorus, turbidity, and phycocyanin readings every 5 minutes, data will be available online. She reviews the website and discusses how results will be posted. There are currently no clear trends in the data to show that the HAB is improving. She states that toxin levels are measurable, but are not a primary concern. DEP will continue field monitoring twice per week, maybe more frequently when they are able to start open beaches because public beaches require two consecutive sample results below standard in order to reopen as per the Department of Health Agreement.

XI. Princeton Hydro Presentation

Dr. Fred Lubnow provides a presentation on harmful algal blooms and long-term management of Lake Hopatcong. He gives a brief overview of harmful algal blooms and their unique adaptations. He states that they feed on phosphorus and limiting phosphorus in the lake will inhibit their growth. They are not eaten by other organisms like other algae typically are. Princeton Hydro conducted sampling on July 2nd at the request of the Lake Hopatcong Commission. He states that their results also exceeded the 20,000 cells/mL criteria in two of their eight nearshore sampling sites. Samples were negative for toxins at all eight sites. He states that phosphorus was higher than average for the entire lake, and he believes that this is indicative of phosphorus being washed from the watershed into the lake. He states that the blooms have occurred periodically over the last 10-20 years and are beginning to persist for longer periods, not only on Lake Hopatcong, but regionally. He states that due to rising temperatures in the mid-Atlantic states, Lake Hopatcong may experience longer growing seasons, less frost days, and an increase in the frequency of extreme weather events. As a result, it is important to control total phosphorus in the lake. He presents a slide which shows the mean, in lake, total phosphorus concentrations over the past 17 years. He states that 2019 had the highest levels of phosphorus. He states that the Commission and Princeton Hydro are working on updating their restoration plan to a watershed implementation plan. This plan is a guide and blueprint that shows how to reduce phosphorus loading to the lake. He states that the Commission and Foundation received grants and implemented projects and reduced phosphorus by one third, this leaves 65% to go. The long-term goal is to lower phosphorus through stormwater and septic management. Dr. Lubnow gives a brief overview of different types of projects such as septic maintenance plans, shoreline stabilization, goose management, green infrastructure and stormwater BMPs.

XII. Commissioner Comments

Commissioner Pravs asks how salt and deicers negatively impact phosphorus in the lake. Dr. Lubnow states that salt and deicers do not contain phosphorus, but they

do kill vegetation, which allows soil to wash into the waterbody and soil carries phosphorus with it.

Commissioner Steinbaum asks about weed control's effect on phosphorus. Dr. Lubnow states that harvesting removes the plant from the lake and this removes nutrients. Algaecide stimulates additional weed growth by killing the plant, it falls to the bottom where it can decay and create nutrient availability. Commissioner Steinbaum states that too many variances are being given for lakeside properties allowing for overbuilding close to the lake. He states that there needs to be protections for the lake, and the municipalities are very liberal in granting variances. Commissioner Steinbaum states that the municipalities and counties used to do an extensive cleanup after the winter season to remove grit and salt left on the roads. He is unsure whether this is still being done due to lack of municipal funding. Commissioner Steinbaum asks about the contribution of waste on weekends when there are so many boats in Byram Bay and whether there should be monitoring of the bathrooms in those boats.

Commissioner McCarthy states that catch basins around the lake should empty, and urges people to look at the catch basins to make sure that they are. He states that 40% of phosphorus comes from stormwater runoff. He states that there is a stormwater BMP in Crescent Cove that has not been maintained in years. When the Commission was funded they were able to assist the municipalities with stormwater and catch basin maintenance.

Commissioner Tessier states that the Commission has a Land Use Committee who reviews municipal land use applications, attends Land Use Board meetings, and reviews existing zoning protections. He states that municipal zoning standards are not being enforced and this is adding to increased stormwater runoff.

Commissioner Wilsusen states that stormwater management extends away from the lake to the entire watershed. The whole watershed feeds the lake and everyone should be conscious of stormwater since it will eventually end up in a water body. He states that Jefferson has banned phosphorus fertilizers, and people can confirm that their lawn services and landscapers are not using phosphorus fertilizers.

XIII. Comments from the Audience (on agenda items only, if applicable)

Chair Smith opens the meeting to the public. He starts by offering the floor to local and state officials first. Hearing no comments, he moves on to local groups.

Julia Somers and Elliot Ruga from the Highlands Coalition provide a statement on how to apply stormwater management techniques to protect Lake Hopatcong and how a stormwater utility may be effective in providing resources for implementation of stormwater infrastructure and projects.

Chair Smith opens the meeting to the general public for comment.

Tim Clancy states that something in the lake has changed, there have been wetter seasons and the septics are the same as they were. He suggests that 2019 is the highest phosphorus on record, which could be due to the quarry discharge because Station 10 had the highest phosphorus in the lake and it is nearest to the quarry. He asks that the nutrient levels of the quarry stream be tested.

April Leaver, President of the Community Association of Propsect Point, states that they are not on the testing list and there have been no signs posted. She states that they use a dog patrol on their beach to control geese. She states that Jefferson needs sewers. She asks that people should go out in their boats to keep the water moving. Selma Richert asks if the algae is airborne. Dr. Lubnow states that they are not in the atmosphere, and it is not an airborne toxin.

Geri Cramer states that she is concerned for the health of the community. There are several people who had flu-like symptoms after swimming in Byram Cove and Henderson Cove. Leslie McGeorge suggests that the symptoms be reported to the County Health Department and the Department of Health Epidemiology program, Public Health and Food Protection Program at 609-826-4935.

Patti Cinelli of Lake Hopatcong Adventures asks what constitutes heavy exposure. Leslie McGeorge states the DEP is concerned with dermal contact with the water, different people have different reactions to exposure to the algae. Ms. Cinelli states that the municipalities should get on top of septic clean outs and catch basin cleaning.

John Kurzman, states that DEP presented on the EPA report and recommends that the DEP use EPA recommendations for HAB exposure. He asks that the DEP treat the lake as different sections and only close the areas that are above standard. He asks that the storm drains be labeled to note that they drain to the lake.

David Goedicke Lake's End Marina states that the advisory has been publicized as the lake is closed and it has devastated the businesses on the lake. He asks if the advisory can be lifted for some areas if not for the whole lake.

Donna Macalle-Holly speaking as a personal resident of Lake Hopatcong. She states that it is helpful to have the DEP website now, but she wishes the information was more readily available earlier since the HAB has been devastating to the businesses around the lake. What is the plan for reopening the lake and how will word get out to the public. Commissioner McCabe states that they cannot provide a timeframe for lifting the advisory but will let people know as soon as they have sample results below criteria.

Carol Noblet of Sussex County Health Department, states that people can call public health nursing at 973-579-0350. They can give information on the effects and which doctors have been notified about algal bloom symptoms that could be present in patients.

Barbara Loring states that aeration would help, so should everyone put their bubblers in. Dr. Lubnow states that it could help in a very localized area if you

have information about depth, but it could also be harmful if you are stirring up more nutrients.

Ron Sorenson Lake Hopatcong Marine states that he is concerned about the over reaction to the HAB because the federal limits are much higher than New Jersey's limits. Why is there such a big difference? Leslie McGeorge states that the federal limits were recently developed after NJ set its limits. She states that currently the advisory is based on total cell counts, not toxin level.

Lisa Kurzman states that she would like to understand the impact of the Quarry discharge. She states that press releases should include more useful information so that people can make more informed decision. Dr. McGeorge states that data is available now and will be available more quickly in the future. Dr. Lubnow states that Station 10 closest to the quarry has the highest phosphorus concentrations in that section of the quarry. Bruce Friedman states that there will be remediation of the quarry discharge. Joshua Osowski provides an update on the quarry remediation. Weldon constructed a silt berm prior to the tributary to minimize silt entering Lake Hopatcong, and they have also placed an oil boom at the mouth of the stream. Weldon has removed 13 cubic yards of stone fines from the pipe that leaked and the tributary, and provided hay bales and silt fencing at multiple locations throughout the tributary. DEP is continuing to monitor the stream, they did a fish survey on June 12th and only found one fish. This could be due to natural stream conditions or the other would be because of the contaminants in the stream. They do plan to conduct a fish survey in Lake Hopatcong. Commissioner Steinbaum asks what the penalty to the quarry is. Commissioner McCabe states that DEP will continue to monitor the stream and quarry.

Jeffrey Carry, Marine Technician asks if it is a citable offense to recreate in Lake Hopatcong. NJDEP answers that it is not.

Rich McFadden Lake Hopatcong licensed engineer. He states that he agrees with the original advisory by DEP, but there is no reason to continue the advisor with the data that is now being posted on the website. Bruce Freidman states that they cannot rely solely on remote sensing to determine cyanotoxin concentration, it is a tool for identifying where a bloom is occurring so that staff can go out and perform testing. He states that there is not 100% correlation between sensor data and sample data and based on the sample data they could not lift the advisory in any area of the lake.

Lorrie Orgara describes bacteria that is present in Florida and states that children in her sailing school are getting very sick. Bruce Freidman identifies the bacteria as Vibrio vunificus, and it is not present in Lake Hopatcong.

Vanessa Luke, Lake Forest Board of Trustees asks whether specific areas of the lake are being tested and if the advisory will be lifted for small areas of the lake, or if they will only open the lake as a whole. Bruce Friedman states that they will consider opening sections of the lake dependent on the data. Ms. Luke asks if all of the testing locations will be tested every Tuesday and Thursdays. Bruce

Friedman states that they are sampling a subset of the locations each Tuesday and Thursday. On the website these are listed as "ST", these are representative locations for regions of the lake. Ms. Luke asks if a region of the lake passes for Tuesday and Thursday sampling, will they be able to open on a Friday. Bruce Friedman states that theoretically they may be able to, but two passing tests does not guarantee that a section of the lake will be opened since results have been up and down. Leslie McGeorge states that the website will updated as soon as results are available, so hopefully the day after testing.

James Mesalusky, Elba Point suggests to the Mayor of Hopatcong that septic cleanouts be mandatory. Mayor Francis agrees that it is important. Mr. Mesalusky asks if boat hull cleaning would help with algae bloom transferring from one lake to another, and where the new buoys will be placed. Leslie McGeorge states that buoys will be placed in the central area of the lake and in the southern portion of the lake.

Deena Lichens asks if there is testing being done on well water close to the lake. She also suggests that testing be done every day, not just on Tuesday and Thursdays. Dr. Lubnow states that typically cyanobacteria do not affect individual wells.

Tom Denafrio states that catch basins do not catch anymore. DEP required that basins be filled so whatever flows into the basin flows directly into the waterbody now. He states that the material found in catch basins is designated as contaminated, and has to be disposed of properly. Bruce Friedman states that he will look into whether catch basins were filled. Dr. Lubnow states that the larger catch basins that were installed in the 2000's were designed to catch materials before water enters the lake.

Phil Riley, Andover states that he is a part owner of a company called Watermark Technologies. He provides an overview of what created the algae bloom. He states that increased rain and runoff to a cold lake created a thermocline of warm water. This also caused the water table to rise and brought septic nutrients to the lake. He states that the lake needs to remove phosphate, and this can be done through treatment with neutralized aluminum phosphate.

Cliff Lundin, Hopatcong states that every item identified tonight has been known for 40 years. He states that all efforts to date have failed, and must be doubled. He states that there are not enough resources available to the Commission. He states that State, Local, and County must work together to address sewers and stormwater and that this includes each individual person on the lake as well.

Jack Davis, Woodport states that a year ago there was a spill from Valiant Contracting now there is a discharge from the quarry. He states that the stream should be managed before it comes into Lake Hopatcong.

Sarah Schindler, Hopatcong states that where there are sewers on the lake there is no bloom. She states that if the State stops giving tax money to the shore and funds the lake then Lake Hopatcong would be well maintained.

Cliff Beebee, Jefferson states that according to 13:12-5 the waters of ake Hopatcong shall be kept at the high-water mark. The DEP should leave the lake alone and it will take care of itself.

Brandon Leevy states that for the past three years there was a green cloud across the main lake in August. He states that in Jefferson behind Jefferson Lumber there is a sewer plant and the river back there is disgusting.

Greg Norman, NJ Sierra Club states that the community needs to tighten up standards and water protections, TMDL, and good watershed planning and stormwater management. He states that there need to be septic management districts, and the municipalities should limit over development and sprawl in environmentally sensitive areas. He states that one thing that may reduce water runoff is the use of hydropower storage units.

XIV. Chairman's Report

Chair Smith has nothing new to report. He asks Commissioner Osowski if there are less weeds this year than there were last year. Commissioner Osowski states that he will have to confirm.

XV. Close of Meeting

Chairman Smith entertains a motion to adjourn. Alternate Commissioner Wilsusen makes a motion to adjourn the meeting. Commissioner McCarthy seconds the motion. The meeting is adjourned.