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MEMO

TO: Nine Mile Creek Watershed District Board of Managers
FROM: Randy Anhorn
DATE: September 9, 2020
RE: Concerns Raised about Normandale Lake by a Concerned Citizen

Background

During the public open forum portion of the Board's August 19, 2020 regular Board meeting, the managers heard from a concerned citizen that lives on Normandale Lake, Mr. Ted Lockhart (5342 Paolo Circle in Bloomington). Mr. Lockhart's comments are included in the draft August 19, 2020 meeting minutes.

Mr. Lockhart raised concerns on the safety/health of Normandale Lake as it pertains to harmful algal blooms (HABs) and associated toxicity as well as the overall success of the District's current Normandale Lake Water Quality Project. He feels that the District is not doing enough to test the lake for HABs and toxicity and that the water quality projects undertaken to date, are actually making the water quality of the lake worse.

As background, the attached flowchart diagrams the District's process/role in blue-green algal bloom and cyanotoxin monitoring and analysis. Similar to other entities such as Three Rivers Park District and neighboring watershed districts, the District does not send samples in to be analyzed for cyanotoxins because of the unpredictability of a bloom being toxic and the lag time of receiving results, by the time we truly know that toxins were present, they are likely gone (although we did send two samples in for analysis per Mr. Lockhart's request in late July 2020—both samples came back below detection limits for the cyanotoxins tested). Due to the lag time, the District felt a more conservative approach was that if monitoring staff observes a potential blue-green bloom, and if after expedited identification and enumeration confirmed a moderate potential health risk ($> 100,000$ blue-green algal units/mL), the District would notify the city and both entities would alert the public of the potential health hazard, but sample are not sent to a lab for cyanotoxin analysis.

As an example, monitoring staff did observe potential blue-green algal blooms on a few of the lakes being monitored in 2020 (Arrowhead, Cornelia, Edina, Holiday, Indianhead Rose and Wing lakes) and did expediate enumeration and identification of the samples. While staff did not observe a potential blue-green algal bloom we did do an enumeration and identification anyway. The table below shows the results and the District's actions.

Lake	Sample Date	# Blue-Green Algae	Total # of Algae	Actions taken
		Units/mL	Units/mL	
Normandale	8/28/2020	890	7,409	No action taken
Rose	8/18/2020	4,939	11,029	No action taken
Wing	8/18/2020	17,058	39,286	No action taken
Indianhead	8/18/2020	18,399	49,976	No action taken
Holiday	8/18/2020	34,855	51,889	Contacted Minnetonka, alerted them of levels $< 100,000$ units/mL, but $> 20,000$ units/mL.

Arrowhead	8/18/2020	37,305	60,297	Contacted Edina, alerted them of levels <100,000 units/mL, but > 20,000 units/mL.
Edina	8/18/2020	210,215	234,338	Contacted Edina, alerted them of levels >100,000 units/mL, posted advisories on District and City websites and social media. City posts water advisory.
South Cornelia	8/17/2020	211,364	236,635	Contacted Edina, alerted them of levels >100,000 units/mL, posted advisories on District and City websites and social media. City posts water advisory.
North Cornelia	8/17/2020	230,892	250,420	Contacted Edina, alerted them of levels >100,000 units/mL, posted advisories on District and City websites and social media. City posts water advisory.

As for the Normandale Lake Water Quality Project and overall timeline:

- UAA study in 2005
- Petitioned by the City of Bloomington to undertake Normandale Lake project(s) in 2007
- Water quality study updates 2017-2018
 - Evaluation of Management Measures to Improve the Water Quality of Normandale Lake - 2017
 - Normandale Lake Water Quality Improvement Project - 2018
- Ordered project(s) June 12, 2018
- Lake drawdown for curly-leaf pondweed management (internal phosphorus loading) 2018/2019
- In lake alum treatment for internal phosphorus management – spring 2019
- Spot herbicide treatment (diquat) for curly-leaf pondweed management
- Carp management analysis/study 2020
- Carp management 2021-on
- Herbicide treatment curly-leaf pondweed management 2021-2024
- Continued implementation of upstream projects to reduce external (watershed) phosphorus loads
- Continues annual lake water quality monitoring to evaluate projects effect on lake water quality and evaluate need to implement other project options identified in reports following herbicide treatments, including:
 - Oxygen injection system, and/or
 - Experimental harvesting of filamentous algae – dependent on USACE approval

Due to the difficulties of shallow lake management, and not wanting to go too fast without evaluating the lake’s response to each implemented project, the Board agreed that a structured adaptive management approach was the best course for Normandale Lake.

Does the Board have questions for staff as to either the District blue-green algal bloom monitoring/analysis protocol and/or the current project plan and timeline?

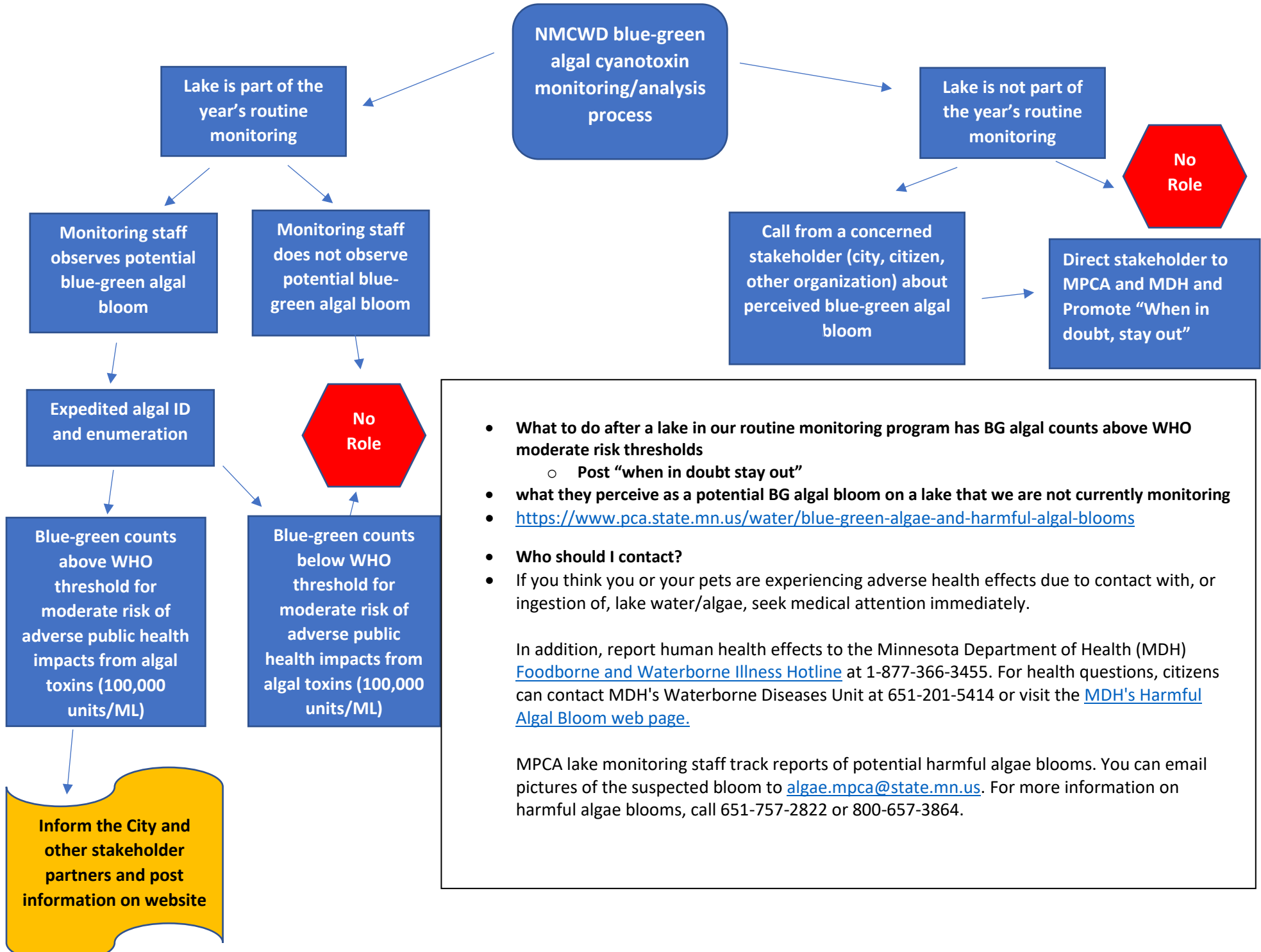
During this agenda item, the District engineers will provide a synopsis of the lake’s historic water quality and the 2020 monitoring results we have to date. In addition, as mentioned at previous meetings, staff plans on hosting another stakeholder meeting this winter (following our receiving and analyzing the 2020 data), so that we can evaluate and present where we are in meeting short-term and long-term goals of the project and get feedback from stakeholders.

Following Mr. Lockhart’s comments during the public open forum portion of the August 19, 2020 meeting, he asked for the managers to make and pass a few suggested motions. While concerned citizens cannot direct District activities, they can raise concerns and make comment that the managers can consider in defining future direction, and policy. With that being said, do any of the managers have questions for Mr. Lockhart or staff on any of his concerns, or want to make any of Mr. Lockhart suggest motions (below).

- Make motion, pass, and ensure every board member has access to the electronic correspondence of Nine Mile & Barr Engineering from May culminating in August 2020, including the attached photographs and videos.
- Make motion, pass and immediately undertake efforts to contact a trusted consultant, ***test Normandale’s Harmful Algal Blooms, including tissue samples***, as well as EPA testing Method 544 ***and make public a determination if Normandale is safe for recreational use (Pause)***
- Make motion, pass, and develop a timely and responsive plan to implement the recommended ***minimum public safety actions*** described in the electronic correspondence

- Make motion, pass, and name an individual to identify the root cause of the integrity and accountability failures at Nine Mile and make report at the next open board meeting
- Make motion, pass, and develop a plan to correct the Nine Mile failures on Normandale Ditch #1 using the provided electronic correspondence as a guide
- Make motion, pass, and immediately halt spending of any of the remaining \$1M funding for the Normandale Project, and only resume disbursement upon published plans to remedy errors made during the spending thus far

NMCWD's Role in Blue-Green Algal Bloom and Cyanotoxin Monitoring & Analysis



- **What to do after a lake in our routine monitoring program has BG algal counts above WHO moderate risk thresholds**
 - Post “when in doubt stay out”
- **what they perceive as a potential BG algal bloom on a lake that we are not currently monitoring**
- <https://www.pca.state.mn.us/water/blue-green-algae-and-harmful-algal-blooms>
- **Who should I contact?**
- If you think you or your pets are experiencing adverse health effects due to contact with, or ingestion of, lake water/algae, seek medical attention immediately.

In addition, report human health effects to the Minnesota Department of Health (MDH) [Foodborne and Waterborne Illness Hotline](#) at 1-877-366-3455. For health questions, citizens can contact MDH's Waterborne Diseases Unit at 651-201-5414 or visit the [MDH's Harmful Algal Bloom web page](#).

MPCA lake monitoring staff track reports of potential harmful algae blooms. You can email pictures of the suspected bloom to algae.mPCA@state.mn.us. For more information on harmful algae blooms, call 651-757-2822 or 800-657-3864.