

Barr Lake/Milton Reservoir Watershed Association
Technical Committee Meeting
Thursday, March 23rd, 2017 (9:00am – 11:00pm)
Metro Wastewater Reclamation District, Denver

Draft MINUTES

In attendance:

Steve Lundt – Metro Wastewater
Julie Kinsey – EPA
Kelly DiNatale – United and ECCV (phone)
Linda Chynoweth – Aurora
Elaine Hassinger – Tri-County Health
Christine Jochaim– Brownstein Farber Hyatt
and Schreck(BFHS) (phone)

Laurie Rink – FRICO (phone)
Jim Doersch – Metro Wastewater

Guests:

Erin Stewart – Solitude Lake Management
Joe Hogan – Solitude Lake Management
Amy Conklin - Coordinator

Steve welcomed everyone and started introductions. He said that he was changing the order of the agenda to accommodate some last minute items.

Denver Water Corrosion Control Program – As a reaction to the catastrophic drinking water issues in Flint, MI, water providers across the country are working on implementing corrosion control procedures to protect drinking water quality. The program Denver Water has proposed includes starting with a passivation dose of 3 mg/L as Phosphate (PO₄) or about 1 mg/L as Phosphorus (P). After about a year, the dose would be reduced in steps down to a maintenance dose. The maintenance dose is anticipated to be somewhere around 1 mg/L as PO₄ or 0.33 mg/L as P. The timeframe is to pilot the program during the spring of 2017 and implement full scale in 2018. A straw man outline of a technical memo to Denver Water and/or the Water Quality Control Division (WQCD) could include the following: description of the corrosion control program (in general terms at this stage), anticipated phosphorus use/concentration, where the water ends up (at wastewater plants, irrigation runoff, etc.) and the fate of the phosphorus in the BMW watershed. It was suggested that the Technical Committee discuss the issue.

Kelly DiNatale reported that other communities conduct corrosion prevention programs without using P. They use lime and other products. **Julie Kinsey** offered to do some research. **Steve** will contact the Colorado Department of Public Health and Environment to see if they have a database of products being used for corrosion prevention. **Amy** will contact Ryan Walsh, Denver Water, to invite him to the BMW April Board meeting.

2016 Water Quality Summary – Steve annually updates summaries about water quality characteristics and how they vary over time in Barr Lake and Milton Reservoir. He has prepared the latest summaries for 2016 data and will send it to the group to review. **Please send comments to Steve no later than Friday March 31st.**

Steve also discussed an outlier P measurement. He suspects that there may be an issue in the lab. Because the data was so isolated an aberration, it's likely to be an outlier. He'll keep the data point, but mark it as an outlier

Solitude Lake Management – Joe Hogan and Erin Stewart introduced their company. It is a national company that opened an office in Denver last year. They specialize in lake management and have treated Feral Lake in Denver and a lake in Firestone. **Joe and Erin** will send information to Amy about the permits they worked under for their Phoslock and Alum applications. Steve summarized the issues with water quality in the BMW watershed and thanked them for their presentation. They were encouraged to review the In Reservoir Treatment Plan prepared by Ken Wagner and posted on the BMW website.

Updates

Storm Water Station at Burlington Head Gate – Steve reported that he hopes to re-schedule a meeting with the stormwater monitoring network members. He shared the slides he will present to the group which includes a map that shows the large area of Denver from which stormwater is not monitored. The proposed new station would capture runoff from the areas currently not monitored. He will keep the group informed of his progress.

CU-Denver Community-based projects – Steve summarized the student projects:

BMW Student Projects in 2017

1. Intern – The Barr Lake and Milton Reservoir Watershed Association (BMW) is again working with Metro State University (MSU), One World One Water (OWOW) center and has hired a student intern, Erica Wenzel. We hope to have our intern begin work in May. The exact tasks the intern will perform will depend on their interests and will include participating in public outreach and education activities and possibly working to organize storm drain marking efforts.
2. Stormdrain marking App – BMW is working with a student from the Turing School of Software & Design, Caroline Powell, to help her design and implement a tool for locating and keeping track of storm drains that have been marked with signage to communicate that water in the drains is not treated before entering the streams. **A presentation on the App will be made at the March 28th Stakeholder meeting at Barr Lake State Park.** We anticipate that the users of the App will include Municipal Storm Separate Sewer System (MS4) permittees who may want to use the App in meeting the requirements of their permit. BMW may have their OWOW intern use the App to organize storm drain marking events. The App will be mobile, direct users to the storm drain closest to them, and allow the users to indicate that the storm drain has been marked, including uploading a photo of the drain. We are working with the Colorado Stormwater Council to try to include the locations of as many storm drains as possible. The App should be completed by May of 2017. We are hoping to make presentations on the App, when completed. Please contact Amy Conklin at amy.conklin@comcast.net for more information.
3. CU Denver Capstone Projects – Steve Lundt, Metro Wastewater, has been working with Dr. Christy Briles, CU – Denver to help her 13 Environmental Science Master's students conduct fieldwork in the watershed as part of their capstone projects. The students have reviewed the BMW Implementation Plan and selected three projects. The students will be presenting their results **May 10th at the Barr Lake State Park Nature Center.** Go to www.barr-milton.org more for more information on the presentations or contact Amy Conklin.

- a. Lawn Fertilizer Studies – The students will be sampling lawns in the Stapleton and Park Hill neighborhoods, as well as at a background location, to measure phosphorus levels.
- b. Barr Lake Sediment Core analyses of phosphorus content and diatoms over the last 100 years – The students have already collected a 90 cm sediment core from Barr Lake and will be evaluating the phosphorus content as well as diatom populations. The goal is to try to determine the impacts on phosphorus levels, sedimentation rates, and diatom populations as the lake uses and inflows have changed over time.
- c. GIS mapping of phosphorus sources in the watershed – Related to the Lawn Fertilizer Studies, students will be creating GIS maps to show sources of phosphorus in the 1st, 2nd, and 3rd Creek sub-watersheds of the BMW watershed. The maps will also identify the best areas for riparian zones and be developed to be interactive as a ‘story map’.

Metro Studies/Modeling – Metro has renewed their contract with Dr. Bill Lewis for another five years. He’ll continue to conduct studies of the South Platte River for Metro. Metro will share the relevant results of his study with BMW as soon as they are available

Next Round of Modeling

2011 – 2017 data – For the next round of modeling, BMW will need to collect data for 2011 to 2017. Linda Chynoweth suggest we try using the Data Sharing Network or the One Water Solutions eRAMS group to assist. Some of the model parameters have changed since the last effort. Metro has stopped pumping effluent directly into the Burlington Canal. The North Treatment Plant is coming online. All the POTWs are implementing additional treatment processes and Metro has been collecting data on the water quality in the ditches that feed the lakes. We may also want to consider adding Ammonia as a modeling component because Milton was put on the 303 d list for Ammonia.

Ohio Inland Lake Webinar –The group thanked Linda Chynoweth for sharing the slides from the webinar. One concept that is particularly relevant to BMW is the importance of internal loading. Because P in the sediments can be recycled so many times through the ecosystem, one kg of P has the production potential of 400,000 kg of algal biomass.

Next Meeting

Tech. Committee: **May 18th !!**

Nutrient Loading

- Rate of nutrient loading and the total amount of nutrients delivered to an aquatic system drives its primary production
 - Input (loading) versus concentration
 - An input of 1 kg of P put into a lake can grow 10,000 kg of algal, but that 1 kg of P can recycle within the lake up to 40 times; leading to the production potential of 400,000 kg of algal biomass.
- Hence retention in the lake of external P loading is important to understand.

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