

Barr Lake/Milton Reservoir Watershed Association
BMW Board Meeting
November 30th, 2021 9:00 am – 3 pm
Zoom and in person at Metro Water Recovery

Minutes

Board Attendance:

Steve Lundt – Metro
Sarah Reeves -SPCURE
Erin Sandos – S. P. Renew
Curt Bauers – FRICO
Brad Cox – Denver
Julie Tinetti – Centennial
Michelle Seubert – CPW
Chris Douglass – ECCV

Charlie Plush – Heritage Sporting
Jori Nelson – Metro Water Recovery
Kelli DiNatale – United
Katie Koplitz – Metro Water Recovery

Public Attendance:

Amy Conklin – BMW Coordinator

Erin welcomed everyone in person. Everyone introduced themselves while eating burritos

Review of BMW Documents and Tax Return: Chris Douglass reviewed the documents and had a few questions. He asked about back up protocols. Amy responded that she backs up files from Dropbox to her personal computer and then onto an external hard drive about once a week. She gave Chris the BMW external hard drive so he could download the most recent version of the files and return the drive to Amy.

He noted that Amy and Chris should continue to work together on document retention and destruction per our policy. **Amy** will go through the BMW corporate documents and try to make them gender neutral and perhaps suggest language to be included in an appropriate part of the corporate documents that articulates Board policy to be gender neutral.

The Board gave a Thumbs Up vote to have the tax return filed. **Amy** will let the accountant know.

Steve led a discussion about BMW goals. The Board agreed that the Core

WATER QUALITY GOALS

- Maintain water quality so that Barr Lake and Milton Reservoir are not on the 303(d) list.
- Develop water quality model(s) that will:
 - Identify the biometrics driving excessive algal growth and high pH
 - Quantify water quality parameters driving excessive algal growth and high pH
 - Quantify water quality parameters driving excessive algal growth and high pH attributable to each source
 - Identify appropriate reservoir management to maximize water quality
 - Identify proper pollutant load allocations to achieve water quality targets
- Ensure that all plans and actions recommended will maintain or improve water quality and habitat
 - Develop and manage a Water Quality Monitoring Plan
 - Develop and manage a Reservoir Management Plan
 - Develop and manage a Best Management Practice Plan
- Define site-specific, numeric and narrative water quality targets
- ~~Develop and recommend to the State an appropriate wasteload and load allocation plan for a TMDL~~

Values seem good. The water quality goals probably need to be updated. **Julie, Sarah, Curt and Steve** agreed to form a sub committee to review the water quality goals in 2022 and maybe look at the BMW Organizational Goals, too.

The Board discussion centered around the reality that BMW, as an organization, does very little to maintain water quality. It is our members who treat the water. BMW's main concern is to keep the water bodies off the 303 d list whether by

VALUES

- Consensus
- Broad and Active Stakeholder Participation
- Action and Measurable Results
- Outreach and Education
- Objectivity and Sound Science
- Respect for Public Resources
- Proactive and Prevention
- List of Goals

ensuring water is treated to adequate levels or the levels are revised to be achievable and ensure that the uses of the water are maintained. Barr Lake is already listed for Ammonia and will likely be listed for Chlorophyll a (Chlor a) and Total Phosphorus (TP). BMW monitors and evaluates conditions and helps our members maintain water quality. BMW also informs and educates people about what they can do to maintain water quality. The Board wrestled with the language of the water quality goals, reaching some consensus on the language below:

Foster and promote water quality so that Barr Lake and Milton Reservoir are not listed as impaired and the uses are attained.

- *Monitoring to understand issues and problems*
- *Collaborate with partners and regulatory agencies.*
- *Education and Outreach to create awareness and drive behavioral change*
- *Opportunities to improve water quality in both reservoirs*

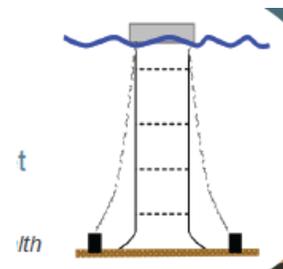
The subcommittee will continue working to develop some language for a presentation to the Board in **April** and a decision on the language in **May**.

UAA/ Model/Capital Improvement tracking – Steve began the discussion with a brief history of the organization. Water quality awareness began in the 1990s when FRICO began monitoring lake water quality, issued a report and developed a lake management plan. FRICO proposed standards to the Water Quality Control Commission (WQCC) that were much lower than current conditions. The lakes were placed on the 303 d list in 2002 when Steve was hired by Metro to begin monitoring the lakes. The WQCC directed FRICO to develop a stakeholder group and apply for 319 grant money to begin writing a Total Maximum Daily Load (TMDL) document.

The first step in the TMDL process was to develop a Watershed Plan following EPA guidelines. \$750,000 in 319 grant money was used to write the first Watershed Plan. Hydrosphere was hired to assess the reservoirs. They built a database of all the monitoring data and Ken Wagner began modeling. The WQCC gave BMW a temporary modification on the pH standard to provide more time for the TMDL process. Steve noted that the Watershed Plan needs to be updated again. It was last updated in 2017 and needs to be added to the topics list for 2022.

The TMDL was completed in 2010 and submitted to CDPHE. After adding a surprise Dissolved Oxygen (DO) TMDL to the pH TMDL, CDPHE approved the document and submitted it to EPA in 2013. EPA approved the document in 30 days. Barr and Milton were listed for DO and placed on the Monitoring and Evaluation (M&E) list. Milton was put on the 303 d list for Ammonia. Next year the WQCC will adopt statewide Chlor a standards which Barr and Milton are unlikely to meet. Barr and Milton are on the 303 d list for Arsenic.

Limnocorral experiments were conducted to try to reduce uncertainty about the relationship between TP, Chlor a and pH. Results from the limnocorrals showed that the water chemistry relationships were pretty close to those developed as part of the TMDL. If TP is reduced to around 100 ug/L, pH and Chlor a should meet the goals established in the TMDL.



Moving forward, wastewater treatment plants (WWTPs) will continue reducing the TP in their effluent until they get to about 1 mg/L. As the WWTPs continue to reduce TP loads, the focus on TP reduction will be the nonpoint sources; stormwater, internal loading and agriculture.

The Board reviewed the table Erin created with a timeline into the future. The important efforts identified in the table are updating the models and considering a Use Attainability Analysis/Site Specific Standards (UAA/SSS). CDPHE has convened a Technical Committee that will release a report on Chlor a and TP standards for lakes. These will likely be the standards proposed in 2022 and 2027 hearings. It is likely that Chlor a will be around 20 ug/L and TP will be below 83 ug/L.

Currently, the watershed model is calibrated pretty well, yielding predictive results. However the in lake model is not currently well calibrated. More work needs to be done so that the model accurately reflects current conditions and could then be used to predict future conditions. Models are only as good as the data that is input. They are useful to predict what will happen when/if conditions change. It is, in fact, possible that the in lake model is predictive but the conditions predicted haven't occurred yet. The current model is the 2005 version and there have been many upgrades since then. The model was predictive until about 2012 to 2013. When additional data, after 2013, was added to the in lake model, it stopped being calibrated to actual conditions.

The Board needs to decide if they want to spend the money to upgrade the model and what questions would we want the model to answer. In developing the TMDL and the Implementation Plan (IP) the model was used to predict many different conditions including WWTP reducing effluent TP concentrations to 1 mg/l and removing the entire Denver Metro area. Reservoirs along the Front Range are notoriously hard to model in part because they are not natural systems, they're man made. Conditions are so variable, they're hard to model. The watershed model gave a good estimation of TP loading in the watershed. Regulators typically expect a reasonably good model to be part of a UAA or SSS.

The Board discussed working with the MS4 community to upgrade the watershed model with stormwater data. The intention would be that the MS4 permittees could demonstrate that they have met the 20% load reduction in the TMDL. Denver would like to use the BMW model in meeting their permit requirements by April 2023. It's possible other CSC members would also be interested in using the BMW model. **Brad** will request a meeting with Holly Piza at Mile High Flood District to determine if they're interested in working with the BMW watershed model to determine if the 20% reduction in TP loads have been met.

If there is support from the stormwater community for upgrading the BMW watershed model, BMW would want to include the following data in the model.

- Lawn Irrigation Return Flows (LIRF)
- Urban Soil Properties
- MS4 loads to Barr Milton
- Lawn fertilizer loads
- P hot spots (NPS)

- Canal in/out
- MS4 BMP impacts
- Stormwater model

If the Board decides to pursue a UAA and SSS, then the model will need to be upgraded but that discussion can wait until after the standards are adopted as part of Regulation 31 in 2027. Other than the stormwater interest, there is no urgency from BMW to upgrade the model. In the meantime, the Technical Committee (TC) can start reviewing the options with the model and work with Integral to develop a recommendation to the Board. The TC can also discuss options for other models and other modelers. **Brad** will continue to report back to the board on interest in the BMW watershed model.

Lunch and Board Photo – Thank you!



The group toured the impressive Megprex facility. Thank you, Metro Water Recovery.

Bank Signers Motion – There was a Thumbs Up vote to approve Julie Tinetti as the new BMW Secretary. Curt Bauers made the motion below. Steve Lundt seconded it. There was a Thumbs Up vote to approve the motion. **Amy** will send the minutes to the Board for their review and approval. Once approval is given, **Chris** can meet **Erin and Julie** at the bank and add them as signatories and remove Dan and James.

“The Board authorizes the treasurer, Chris Douglass, to remove past officers, James Boswell and Dan Delaughter from the Barr Milton Watershed Association account with TBK Bank. The TBK Bank company ID is 651250027. The Board further authorizes the treasure to add two new signers: Erin Sandos (Chairperson) and Julie Tinetti (Secretary) as signers to the account.”

Chris noted that the new coordinator may want to change process for checks and work again with the electronic system. Chris will also look into BMW credit card. The current debit card is connected to Steve’s credit and a BMW credit card would not.

Development of a list of topics for the Board and the Technical Committee – Based on the previous discussion, and continuing the discussion, Board priorities will be winnowed down to a calendar of topics for 2022.

Board Topics	Technical Committee Topics
CDPHE Lakes Nutrients Criteria Presentation – early spring or summer 2022	Updating watershed model – have Marsha Greenblatt come in January 2022. Consider additional data needs for updating model and potentially, other modelers. Steve will reach out to Marsha.
Suncor Permit Review – January	In lake model – what would have to happen to decide to update/calibrate that model?
Water Quality Goals revision (and maybe Organizational Goals, too). April Presentation, May decision – Julie, Sarah, Curt and Steve	Carp harvesting – carp tournament in 2022. Collecting data from Milton on carp harvested. Review of in canal capture options
Watershed Coordinator Committee – standing item starting in January 2022, Chris, Amy, Curt	
CDPHE UAA Presentation – Parking lot	
2022 Hearing Prep (Lakes Nutrients) – get party status – July/August	
Watershed model upgrade and use by partners – Brad will meet w MHFD, 2022	
USGS Super Gage – March presentation. Amy will send information to the Board	
Watershed Plan Update – Erin, Steve	

Parking lot:

- CDPHE UAA presentation

Wrap up and Next Steps – There was a Thumbs Up vote for Erin to sign a letter of support for a grant application for Water Education Colorado to continue to coordinate the Water Educator Network.

The BMW 2022 Calendar is shown below.

Next Meetings

- I&E Committee meeting – **January 4th, 2022, Barr Lake State Park Nature Center**
- Board meeting – **January 25th, 2022, Hybrid, S. Platte Renew and virtual**
- Technical Committee meeting – **January 27th, 2022 TBD**
- Stakeholder Meeting – **February 22nd, 2022, Barr Lake State Park**

BMW 2022 Schedule

Keep meetings hybrid format – at SP renew w virtual option. Erin will be virtual host

January –

4th I&E Meeting

25th Board Meeting – Suncor permit –
27th Technical Committee Meeting – model update discussion, Marcia Greenblatt.

February –

2 – 4 Pro Green Expo
22nd Stakeholder Meeting – Urban waterway flow sources presentation

March –

1st Information and Education Committee Meeting
22nd Board Meeting – USGS gage presentation and decision
24th Technical Committee Meeting

April – 26th Board Meeting – Water Quality (and Organization?) Goals discussion

May –

3rd Information and Education Committee Meeting
24th Board Meeting – Goals decision
26th Technical Committee Meeting

June -

28th Stakeholder Meeting/Watershed Tour – at Milton, on the water.

July –

5th Information and Education Committee Meeting
9th Barr Lake Appreciation Day
26th Board Meeting – Insurance discussion, Coordinator 1st reading
28th Technical Committee Meeting

August – 23rd Board Meeting – 2022 hearing prep, New Coordinator on Board?

September –

6th Information and Education Committee Meeting
27th Annual Meeting and BBQ
22nd Technical Committee Meeting

October – 25th Board Meeting – 2022 Hearing prep

November –

1st Information and Education Committee Meeting
November 29th Potential Board meeting/retreat – New Coordinator?

Standing(-ish) Agenda Items

- P Free Lawn Fertilizer coalition
- I&E Committee
- TC Committee – stormwater monitoring gage
- Chair, Treasurer, and Coordinator reports

- Modeling effort/watersheds coordination
- IP Projects
- Permit tracking – Brown and Caldwell
- Grant updates
- 2022 Hearing preparation
- Coordinator subcommittee

Board meetings – 8

- January
- March
- April
- May
- July
- August
- October
- November or December

Stakeholder meetings – 3

- February
- June
- September

Technical Committee meetings – 5

- January
- March
- May
- July
- September

Information and Education Committee meetings – 6

- January
- March
- May
- July
- September
- November