

Barr Lake/Milton Reservoir Watershed Association
 BMW Board Meeting
 April 24th, 2018 9:00 am – Noon
 Metro Wastewater Reclamation District

Minutes

Board Attendance:

Steve Lundt – Metro
 Chris Douglass - ECCV
 Dan Delaughter – SPWR Partners
 Laurie Rink – FRICO
 Mark Cubbon – South Adams
 Charlene Seedle – South Adams
 Sarah Reeves – SPCURE (phone)
 Michelle Seubert – CPW

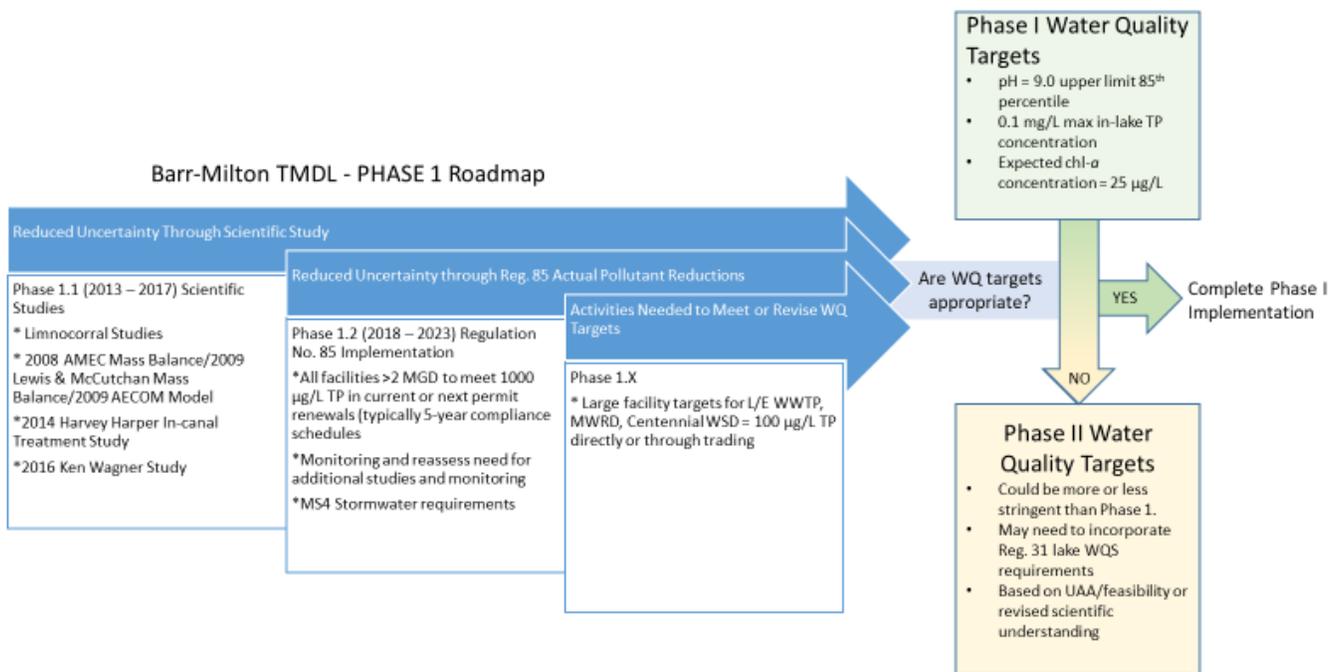
Drew Damiano – United Water
 James Boswell – Thornton (phone)
 Donny Roush – DPW
 Julie Tinetti – Centennial (phone)

Public Attendance:

Amy Conklin – BMW Coordinator

Dan welcomed the group and everyone introduced themselves. Steve reported that he would not be able to attend the Board meeting next month and was looking for a Metro person to replace him. There would still be a meeting room available.

White Paper Work Session – Dan presented summary slides on Clarification of Phased Total Maximum Daily Load (TMDL) and Adaptive Management. His conclusion is that the BMW TMDL may be both staged and phased. Staged refers to implementation while phasing is about uncertainty of what the standards should be.



Some of the reason the BMW TMDL was phased was because there was so much load that needed to be reduced. Calling it phased injected hope that someday all the loads would ever

be reduced to the target goals. An Implementation Plan was required as part of the TMDL process which gave the Colorado Department of Public Health and Environment (CDPHE) and EPA comfort that implementation would happen. While the BMW TMDL is a phased one, we are conducting activities to implement solution in stages, making the TMDL both phased and staged. Phase 1.1 of the BMW TMDL is the conduct of the scientific studies BMW has undertaken. Phase 1.2 is implementation of Regulation 85 limits. Phase 1.3 will be implementation of future nutrient limits. Phase 1.X will be implementation of Phase 1 targets, primarily by publicly owned treatment works (POTWs).

The Water Quality Control Division (WQCD) interprets how the BMW TMDL will get implemented differently than BMW does, witnessed by their issuing industrial permits in the watershed. Their view is that only domestic discharge permits are subject to the TMDL in part because there was no identified load for industry in the TMDL. It would be to our advantage to help the WQCD understand our interpretation. However, we need to be sensitive to constraints on WQCD staff and be sure the path forward is well considered and articulated.

If we want to accommodate additional permits, we would need to identify where their loading would come from. We could examine the ‘Upstream Background load’ in the Wasteload Allocation tables. It is also likely that other water quality parameters will be

Table 4.1 Barr Lake Allocation Strategy.

Source of Phosphorus to Barr Lake	Current Load (kg/yr)	% of Total Current Load	Load Reduction Rationale	Target Load Reduction (%)	Target Load (kg/yr)	Target In-Lake Concentration (ug/L)
Wasteloads						
Burlington Pump Works	26,075	37.1%	Treatment upgrade: 2,800 ug/L to 100 ug/L	96.5%	913	100
Littleton-Englewood WWTP	33,883	48.2%	Treatment upgrade: 2,900 ug/L to 100 ug/L	96.5%	1,186	100
Centennial WWTP	1,194	1.7%	Treatment upgrade: 700 ug/L to 100 ug/L	85.5%	173	100
MS4 Regulated Areas	2,189	3.1%	Some activity over last decade, plus more BMPs	20.0%	1,751	100
Wasteload Total	63,351	90.0%		93.6%	4,023	100
Loads						
Upstream Background Loads	3025	4.3%	Targeted for a 75% reduction through in-canal treatment in the Burlington Ditch	75.0%	756	100
Benthic P Load from Barr	4,000	5.7%	In-lake treatment to inactivate P in upper 10 cm of sediment	75.0%	1,000	100
Load Total	7,025	10.0%		75.0%	1,756	100
Total Load (all sources)	70,376	100.0%	Calculated loading limit to achieve maximum target load of 5,900 kg/yr and target in-lake maximum concentration of 100 ug/L	91.8%	5,779	100

Note: For wasteload allocations, the long-term permit effluent limitations for total phosphorus of 100 ug/L as indicated in the table above will be implemented as an annual average plus a 30-day average not to exceed 3 times the annual average at any hydraulic capacity (rated or existing) for the identified wastewater treatment facilities. Interim effluent limitations of 1000 ug/L for the Burlington Pump Works, Littleton-Englewood WWTP, and Centennial WWTP will be implemented as described in Regulation No. 85.

added to the TMDL as early as 2022. The Board may want to consider contrasting the proposed standards for the 2022 hearing with what is already in the BMW TMDL. The proposed standards may be very similar to the TMDL. As POTWs continue to improve their treatment, it will be important to establish if the 0.1 mg/L standard for TP is protective of the uses. There may be a sweet spot between the limits to dischargers in Regulation 85 and the, very restrictive, limits in Regulation 31 where the uses are protected.

The Board discussed when enough studies would be completed to definitively say that the uncertainties have been resolved. The limnocorral studies validated that the Chl-a target of 25 and total Phosphorus (TP) limit of 0.1 mg/L would allow the pH limit to be attained. There may be some nuances remaining among and between the water quality parameters that warrant further study. For example the amount of organic P may be more important for water quality than TP. The Nitrogen to P (N:P) ratio may be more important than TP alone. The uncertainty that remains is if we can ever reduce the loads enough to achieve the targets and if the relationships among the water quality parameters holds under those circumstances. Because this is a natural biological system, it's very unlikely that all the parameters will all be attaining the standards at the same time. The water rights reality of the lakes complicates the system and makes attaining all the water quality standards at the same time challenging.

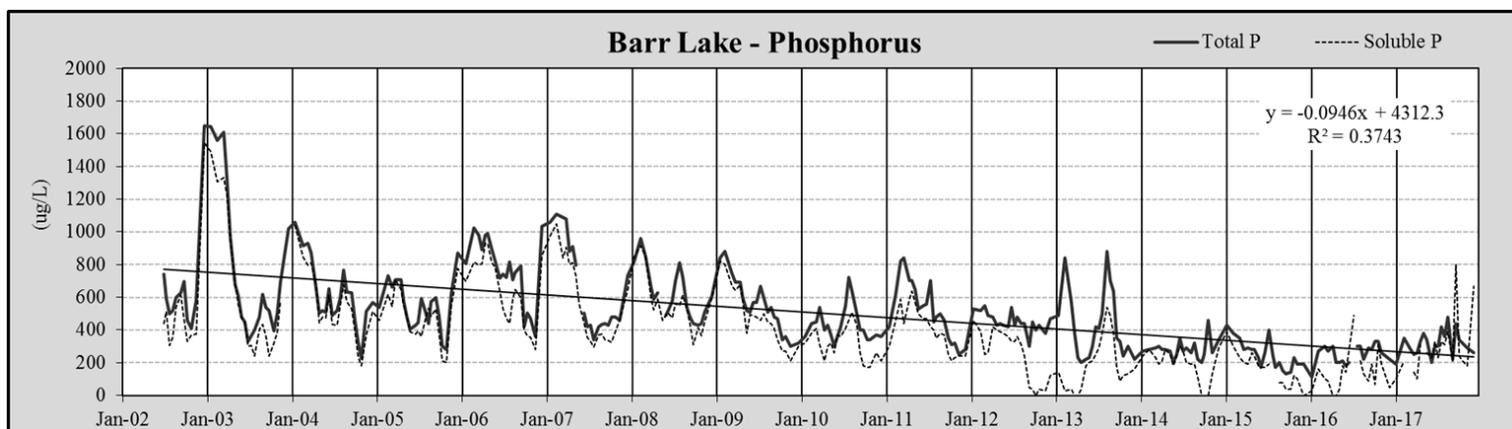
The Board concluded that the path forward working on the white papers is to have the papers finalized prior to the retreat in November. At the November retreat the Board can develop a preferred path forward to implement the TMDL. Once the preferred path forward is developed conversations with the regulators can begin. The preferred path forward could be finalized and presented to the Stakeholder in 2019 at the Annual meeting and BBQ.

The Board discussed the need to focus on other sources and if that would require additional monitoring or studies. The first changes to the loading in the watershed will be from the POTWs improving treatment to comply with Regulation 85 limits. It might be much more cost effective to treat sources other than POTWs to remove the last amounts of TP to attain the TP limits. In canal treatment may be one option to cost effectively remove loading after the POTWs achieve their limits.

The Board concluded that the Uncertainty White paper, authored by Steve, should remain as a stand alone document. The goal of the Current Status of Phased TMDL, Frequently Asked Questions, Action List and History of Discussion sections is to reflect that the document is a living one. There may be multiple permit cycles before all the dischargers are compliant with Regulation 85 limits. An appendix could be added to track all the permits and the improvements being accomplished. Within a year, the timelines for most of the dischargers to meet Regulation 85 limits should be known. The Board thanked **Dan** for his hard work developing the draft white paper.

The Board took a break during which **Amy** was requested to send out a Doodle Poll for an informal orientation session (maybe with wine and beer) for any new members who would like one.

In May the Board will review the Site Specific Options white paper. The Board reviewed the Modeling Justification paper Steve wrote. Steve projected the 'EKG' of P in the lake beginning in 2002. The data collected was used to calibrate the initial watershed and in-lake models. Additional data from 2005 to 2010 was used to recalibrate the models. From 2011 onward, the P in the lake has stayed below 400 ug/L pretty consistently. Additional modeling will be needed if BMW wants to pursue a Use Attainability Analysis. The proposed modeling effort will include an examination of the original wasteload allocation table to evaluate how much current loads have been reduced from the initial estimates. The



proposed modeling effort could include running a scenario where the TP limit of 100 ug/L is met and see what happens to Chlor a levels.

Since 2009, there have been very few blue-green algal blooms. It might be useful to explore what water chemistry changes there have been to reduce the blue-green algal blooms. The modeling effort could also analyze the sensitivity of the model to changes in water quality parameter levels. Running management scenarios is not as important as ensuring that the model is accurately calibrated. Some calibration will be needed for changes in the watershed such as the Northern Treatment Plant coming online. The addition of a new load from Denver Water orthophosphate additions could be modeled as could a scenario where P in fertilizers was reduced. It is important to understand if the model can answer the questions we are asking. The Board may want to work with Denver Water in modeling any loading changes from their operations.

Steve will contact the modelers and request a revised proposal. He hopes the modeling contract can be approved at the May Board meeting or by email.

Technical Committee- Steve briefed the Board on a few topics, including:

- The CU Denver students will be presenting their capstone projects on May 9th at 5:00 pm on the Auraria Campus.
- A new idea for trapping those rascally carp. He is working with a professor in Minnesota and hope to be able to try his new box net. Maybe it can be a stakeholder event?
- Barr Lake has been stocked with Tiger Muskie this year.
- The stormwater monitoring station has been installed and is waiting for Xcel to provide power before it comes online.
- The Northern Treatment Plant has an issue with invasive plants that were installed in their ponds, Eurasian Water milfoil, parrot feather, and Brazilian Elodea.
- The National Western Center plan, included in the Board packet.
- The next meeting of the Technical Committee will be May 24th at Metro, beginning at 9:00 am.

I & E Committee – Michelle reported that Lake Appreciation Day is July 14th. She received the grants for the event. She has been working with the BMW intern on a water sample station in the nature center. The Spring Fishing Clinic is May 5th. BMW will have a booth with a t-shirt making station. Volunteers are needed for that event.

Steve reported that there was a stormdrain marking event interrupted by a blizzard. About 75 stormdrains were marked.

Amy was requested to add the bike tours to the event calendar.

Updates/Action Items

- General Public to Address Board – no one from the public was present to address the Board.
- Chair’s Report – Dan reported that Fort Lupton’s discharge permit doesn’t mention BMW TMDL. Dan received a Thumbs Up approval to send a letter to CDPHE stating that the permit should reference the TMDL.

- Treasurer’s Report - Laurie reported that as of the March 30th, 2018, we have a balance of **\$200,472.42** all expenses since the last meeting are within budget and will be recorded as part of the minutes. All Membership Dues Invoices were sent out on April 9th. Let Amy know if you have any questions. Amy was requested to call Alison Withridge at Denver Water and ask her how much the membership dues invoice should be.

April Checks to Sign	
2007 - Amy Conklin, March coordination	\$ 4,683.38
2008 - Amy Conklin March Bike Tour	\$ 596.25
2009 - GEI, stormwater station	\$ 8,008.05
2010 - MSU, internship, 2 semesters	\$ 4,134.00
2011 - Applewood Bookkeeping	\$ 40.00
2012 - SPLASH, membership	\$ 100.00
2013 - Gallagher, Bike Tour policy	\$ 401.70
2014 - Joy Labadie	\$ 100.00
Total April expenses	\$ 18,063.38

- Update on External Influences – OCCT filings – BMW is a party to the request for reconsideration to the WQCD. The Attorney’s need the Engagement and Joint Representation documents signed. BMW needs to develop a budget for the effort. Dan will poll the Board to have a special meeting where the entities who can contribute will commit to do so. Amy will draft some talking points about BMW’s focus and interest in the filings. She will send it out for Board review.

- Coordinator Updates (Amy C.)
 - Approval of the February 27th Meeting Minutes – The Board gave a Thumbs Up approval to finalize the minutes with the addition of comments from Laurie and Steve under the Technical Committee item.
 - Plans for June Stakeholder meeting/ watershed tour. Amy and Steve will work to finalize the details of the tour. Amy will send a Save the Date to the Stakeholders.
 - Progress on the bike tours continues with some people signing up and purchase of an insurance policy for the events.

Next Meetings

- I/E Committee Meeting – **May 1st, 2018 9am, Barr Lake Nature Center**
- Board Meeting – **May 22nd, 9 am Metro** Other 2 white papers, DW update, Fall BBQ Centennial and L/E updates
- Technical Committee meeting – **May 24th, 2018, 9 am, Metro**
- Stakeholder Meeting – **June 26th, 2018 9:30 am, North Denver Cornerstone**

Collaborative**BMW I/E Events for 2018**

Date	Event	Activity	Name and contact
Saturday 5/5/18	Furry Scurry Washington Park	Booth, balloon	Donny R., Intern
Saturday 5/5/18	Barr Lake Spring Fishing Clinic	T-shirts, Booth	Michelle S.
Thursday 5/10/18	Tri-City Water Festival	Speak	James and Michelle S.
Wednesday 5/16/18	Denver Metro Water Festival	Booth	
Thursday 5/17/18	Aurora Water Festival	Booth	
Thursday 5/17/18	Boat Safety Celebration and Birding by Canoe	Booth?	Michelle S.
Tuesday and Wednesday, June 5 th and 6 th	Urban Cycle Bike Tours	Bike Tour	Amy S., Steve L., Donny R.
Saturday and Sunday 6/23/18	South Platte River Fest	Booth	Donny R.
Saturday 7/14/18	Lake Appreciation Day	T-shirts, Booth	Steve L., Michelle S.
Friday 8/3/18	Adams County Fair	T-shirts, Booth	Michelle S.
Saturday 9/8/18	Barr Lake Fall Birding Festival	T-shirts, Booth	Michelle S.
Saturday 9/22/18	Barr Lake Bark in the Park	Pet Waste Message	Michelle S.

Tuesday 9/25/18	World Water Monitoring Challenge	T-shirts, Booth	Deb P.
Saturday 9/29/18	National Public Lands Day, Shoreline Clean up	T-shirts, Booth, pick up trash	Michelle S.
10/9-11/18	Watershed Assembly Conference	Booth, speak	Amy C.
Saturday 10/13/18	Barr Lake Harvest Festival	Help out	Michelle S.
Saturday 10/27/18	Barr Lake Halloween Trail	Help out	Michelle S.
Wednesday 11/7/18	Cherry Creek Stewardship Partners Conference	Booth	Amy C.