

Barr Lake/Milton Reservoir Watershed Association
 BMW Board Meeting
 March 26th, 2019 9:00 am – Noon
 Metro Wastewater

Minutes

Board Attendance:

Dan Delaughter – SPWR Partners
 Curt Bauers - FRICO
 Sarah Reeves - SPCURE
 Steve Lundt – Metro
 Donny Roush – Denver

Samantha McKinney – MSU, BMW
 Intern
 Michelle Seubert – CPW (phone)

Public Attendance:

Amy Conklin – BMW Coordinator

Dan welcomed the group and everyone introduced themselves, while enjoying delicious burritos. Donny Roush shared that Michelle Seubert won Environmental Educator of the Year from Colorado Association of Environmental Educators. Yay, Michelle!!

Optimal Corrosion Control Treatment (OCCT) Update – Dan reported that he and Steve met with Nicole Rowan and Joni Nuttle to go through the spreadsheet model to figure out how to refine it. Nicole converted the model to change over time, decadal. Dan intends to look into return flows more. Denver Water (DW) estimates of Lawn Irrigation Return Flows (LIRF) was the lowest estimate used in the loading spreadsheet model; the Cottonwood estimate was the highest. There are some other studies to support increasing the estimates for return flows. The high estimate may be better at 25 or 30%. The stormwater component is also being revised. The 5 and 18% numbers are from studies done by Wright Water. The model is getting close to final. Curt reported that South Adams Water and Sanitation District had LIRF as high as 38% in the 1980s and reduced it to 20 to 25%. Dan can look at past decrees to see what the LIRF estimates have been. Steve looked at how much additional flow makes it to the Burlington Headgate. For the last 5 years, between 5-21% of the flow in the river makes it to Barr. For Milton, it's a much more complicated estimate. Steve used the ratio of Milton to Barr to estimate 3 – 11% of the flow in the river makes it to Milton. From the flows, he calculated the loads.

The model will assume that some of the Phosphorus (P) will make it through the wastewater treatment plants (WWTPs) until around 2030. After that, the new treatments should capture enough that we can assume 0% of the load from OCCT gets through the WWTP. The results are very flow dependent. Steve's data set includes dry and wet years. They will present the model to the Technical Stakeholder group on Monday along with Steve Price from DW presenting the cost model. One complication is to be sure the costs of removing P aren't being double counted. A few sinks for the P are lawn clippings and bio solids and stormwater control structures (if properly maintained). The P won't go away, it will just be contained in the watershed or exported from the watershed. The efficiency range on a control structure can be very large and some places just don't have the option for installation of a control structure. One useful number may be to see how much in canal treatment before Barr would be. Harvey Harper did the analysis and that estimate exists. There will also need to be some refinement to make sure costs of removal aren't double counted as well.

TABLE 5-1

**SUMMARY OF CONSTRUCTION, O&M, AND
TOTAL PHOSPHORUS MASS REMOVAL COSTS FOR
THE ALUM INFLOW TREATMENT OPTIONS**

OPTION	CONSTRUCTION COST (\$)	ANNUAL O&M COST (\$)	MASS TP REMOVAL COST ¹	
			\$/kg	\$/lb
1. <u>2,500 kg TP/year</u>				
a. Flocc Discharge to Lake	1,161,456	133,618	59.50	26.98
b. Full Flocc Capture	1,776,474	148,428	75.90	34.42
c. Partial Flocc Capture	1,538,005	144,923	70.20	31.84
2. <u>14,500 kg TP/year</u>				
a. Flocc Discharge to Lake	1,211,256	443,392	25.00	11.34
b. Full Flocc Capture	5,212,658	491,953	41.00	18.59
c. Partial Flocc Capture	3,369,980	471,572	33.70	15.28
3. <u>53,250 kg TP/year</u>				
a. Flocc Discharge to Lake	1,334,856	1,326,851	18.20	8.25
b. Full Flocc Capture	12,085,361	1,475,634	30.20	13.70
c. Partial Flocc Capture	7,022,987	1,407,483	24.60	11.16
4. <u>68,160 kg TP/year</u>				
a. Flocc Discharge to Lake	1,334,856	1,569,759	16.60	7.53
b. Full Flocc Capture	14,205,839	1,746,355	27.80	12.28
c. Partial Flocc Capture	8,097,689	1,664,297	22.50	10.20

1. 20-year present worth cost, $i = 4\%$

DW has been able to show that 2 mg/L of Phosphate is as effective as 3 mg/L in achieving OCCT. DW will likely be requesting a modification to the CDPHE ruling, requesting that OCCT be 2 mg/L Phosphate instead of 3 mg/L. DW may also be pursuing a variance from EPA to use pH adjustment, point of use filtration and an accelerated service line removal program instead of adding phosphate. The Board is considering options to support DW's requests

The monitoring group has also been meeting. Unlike other investigations of this kind, the source of the pollutant is known we just need to collect some data to prove up the assumptions in the model. Some of the options being considered are auto samplers at storm drains and sampling for ortho P in the river. SPCURE will add ortho P to its analyses soon. June and September are going to be busy times for the OCCT litigation. CDPHE has already begun the white paper of the technical work that's been done.

Modeling Effort Update – The Technical Committee (TC) is meeting this Thursday will discuss progress on the effort. Ken Wagner and Marcia Greenblat will be calling in. They're having trouble with model tracking flow and P. The model continues to predict higher values than the data show. There may be an issue with the settling rate. So far, they haven't been able to fix it and there's no money left in the contract. The report may show that the model is not tracking well with the most current data. The BMW members may be asked to review the data to be sure there aren't any units issues or some other easy fix.

The carp removal may be making an impact. Ken Wagner has been updating the annual loads. Both lakes show about a 50% reduction in P loads from 2003 to 2018. In Barr Lake the reduction was from about 63,000 kg/yr to 30,000 kg/yr. In Milton the P loads were reduced from about 37,000 kg/yr to 20,000 kg/yr. Ken will also be reviewing the load allocations from different sources as well. Some other factors contributing to the load reductions may be that metro is no longer pumping effluent directly into the Burlington Canal and the P concentration in Metro's effluent has been reduced from about 3 mg/L to 1 mg/L.

The BMW stormwater auto sampler at the Burlington Headgate is collecting data and captured the Bomb Cyclone. Steve has been running a weekly composite. GEI just sent this year's contract for \$8,500 to perform stormwater sampling at the BMW station. The GEI sampling would be separate from Steve and SPCURE's sampling. The Board gave a Thumbs Up approval of the GEI contract. Amy noted her conflict with GEI where her husband works. Steve shared the churn splitter that he uses to combine samples and submit one sample.

The carp harvest using box netting is starting! Die, carp, die! Steve and his crew will put the net out in July and try to harvest carp weekly. He can harvest as much as 10,000 carp. The Board gave a Thumbs Up approval of the box net rental contract for a not to exceed amount of \$8,020. Michelle reported that lots of volunteers are anxious to help with the carp harvest.

Discussion of Senate Bill SB19-186 – Dan explained that he learned about the bill at the Water Quality Forum. The bill expands the agricultural water quality management plans to include groundwater. An analysis of the Waters of the US (WOTUS) federal legislation concluded that it removes groundwater from WOTUS. This bill seems to be adding ground water into Waters of the State. The Board decided to watch the bill and put it on the agenda for the April meeting.

BMW providing input to Denver's MS4 permit - BMW has an opportunity to provide input into the next version of Denver's Phase 1 MS4 permit. It is possible that if language is added to Denver's MS4 permit regarding TMDLs that the language will be added to other Phase 1 permits and possibly Phase 2 permits as well. Steve reported on the outcome of the Feb. 14th meeting. The participants were divided into groups to talk about potential changes to the MS4 permit. CDPHE is looking for ideas to make MS4 permits clear, specific and measurable. Best Management Practices (BMPs) are now called Control Measures. There is likely to be additional record keep required and long-term control measure maintenance. There is also a desire to include language about TMDLs in the MS4 permit.

The Board talked about the MS4 wasteload allocation currently in the TMDL. At the time the TMDL was being developed it was assumed that P loading from stormwater would be reduced by 20% as a result of control measures MS4 permit holders were putting into place. There is not a way to currently measure if the 20% reduction has been achieved. Once DW adds Phosphate to the drinking water, the P loading from stormwater will increase.

The Board brainstormed ideas about what types of language BMW would like added to Denver's permit. It could begin with some background on what the TMDL currently says. Ideally, BMW would like tracking of the effectiveness of Denver's control measures. BMW would also appreciate a greater level of coordination between the Phase 1 MS4 permittees stormwater

monitoring network and BMW's stormwater permit at the Burlington Headgate. We may also want to include language about how the OCCT LIRF load will be a new wasteload in the TMDL and that we can address the new load in an update to the Implementation Plan. Including more dry weather stormwater monitoring may be another requested addition. As the WWTPs reduce their loads, the relative amount of loading from stormwater will increase. **Dan** will reach out to Patrick O'Connell, the current Chair of the Colorado Stormwater Council and see about making a presentation to their members.

Regulatory Conversations – Dan has arranged for Nicole Rowan and Aimee Konowal, with potentially some other CDPHE staff, to attend the April 23rd BMW Board meeting. There have already been discussions with CDPHE about handling the new OCCT P load through an update to the Implementation Plan. The Board discussed the importance of being clear amongst ourselves what questions we want to discuss with CDPHE staff and what some of the potential answers are. Dan sent a letter to Nicole and Aimee, at the Board's direction, that included the following questions:

- 1) What is the expected timing for final implementation of Phase I of the TMDL?
- 2) What are the options to address the potential added load from Denver Water's ortho-P if they are required to use it
- 3) How does the TMDL interface with the Reg. 85 Incentive program? Incentive credits push out Reg. 31 implementation but what about TMDL implementation
- 4) How will chlorophyll-a be implemented following the 2022 hearing? This has come up since our current TMDL essentially targets a growing season average of 20 µg/L. Would the lakes be re-listed for chl-a and a new TMDL need to be developed or would the existing TMDL be adequate?
- 5) What other parameters might we want to put on the group's radar? (Ammonia, selenium) in conjunction with the 10-year Roadmap?
- 6) What types of studies should we be looking at if we think a UAA might be appropriate?
- 7) Is it time to update the Adaptive Implementation Plan?

Sarah, Steve, Curt and Dan will meet before the April 23rd meeting to develop a list of answers to the questions and circulate it among Board members.

I&E Update – Sam reported that she's been recruiting volunteers from MSU and she has gift cards to hand out as a thank you. Cards have been donated by BMW, FRICO and will be donated by Denver Public Works. She will be attending the Furry Scurry. SPWRP clean up event is going to be big. BMW will have a booth and dog bags.

Sam also reported that she has been looking into an upgrade for the BMW website. The Board wrestled with how maintenance and security would work if the site was migrated to Word Press or Square Space. The conclusion is to have **Sarah, Dan and Steve** talk to their respective

entities to get more, higher level information on what website set up would work best for BMW. **Amy** will ask Joy Labadie, the current website manager, for current Google Analytics.

Donny reported that Friday May 3rd, he is leading a stormdrain marking event at St. Rosa of Lima School. Will send out notice to Caroline and Phillip, Amy and Steve. About 80 students will be participating from about 8 am to noon. Steve may have alumni group that also want to mark drains.

Sam reported on her research for a redesign of the BMW logo. For \$200 we can use a service that will generate 20 different logos to choose from. **Sarah** offered that Brown and Caldwell may provide a logo redesign as an in kind donation.

Sam has developed a spreadsheet for recording nutrient content in home use fertilizers. **Amy** will send it out to the BMW distribution list and ask them to send us information on the nutrient content they find in home use fertilizers.

Updates/Action Items

Chair’s Report – The Chair had nothing to report.

Treasurer’s Report – **Amy** was tasked with tracking down the in-kind donation reporting BMW includes in the budget.

Coordinator Updates (Amy C.)

Approval of the January 22nd Meeting Minutes – There was a thumbs up approval of the minutes.

Water Conference concept – Amy has requested a standing agenda item of organizing a water conference to capture the momentum resulting from the OCCT stakeholder process.

Sales Tax Exemption Letter – **Amy** was directed to submit the Sales Tax Exemption Letter.

Potential Coordinator Conflicts of Interest – Amy reported that she is being interviewed for the Colorado Wastewater Utility Council Administrator position. She also reminded the Board that her husband works for GEI. No one expressed any concern about a conflict if Amy becomes the Administrator for the Colorado Wastewater Utility Council.

BMW to join Metro DNA – There was a thumbs up approval for BMW to join Metro DNA at the \$100 level.

Bike Tour Approval – There was a Thumbs Up approval for BMW to participate in the Urban Water Cycle Bike tours.

The Board discussed membership in the Colorado Monitoring Framework. **Amy** was directed to provide a list of all the groups BMW is a member of at the next meeting. There was a Thumbs Up approval for BMW’s membership dues in the Colorado Monitoring Framework. **Curt** will act as the BMW representative.

February Expenses	
2059 - SPLASH membership	\$ 100.00
2062 - Amy Conklin, Jan. 2019 Coordinator	\$ 2,836.00
March Checks to sign	
2067 - CO Monitoring Network membership dues	\$ 5,402.84
2068 - Integral Consulting, modeling	\$ 3,377.06
2069 - Amy Conklin, Feb. Coordinating	\$ 3,415.11

Next Meetings

- Technical Committee meeting – **March 28th, 9 am, Metro**
- Board Meeting – **April 23rd, 9 am Metro**
- I/E Committee Meeting – **May 7th, 2018 10 am to noon, Barr Lake Nature Center**
- Stakeholder Meeting – **June 25th, 2018 9:30 am, Barr Lake State Park Tour**