

**Barr Lake/Milton Reservoir Watershed Association**  
**Technical Committee Meeting**  
**Thursday, May 24<sup>th</sup>, 2017 (9:00am – 11:00pm)**  
**Metro Wastewater Reclamation District, Denver**

## Draft MINUTES

### In attendance:

Steve Lundt – Metro Wastewater  
 Elaine Hassinger – Tri-County (phone)  
 Julie Kinsey – EPA (phone)  
 Jon Stednick – FRICO (phone)  
 Linda Chynoweth - Aurora

James Boswell – Thornton (phone)

### Guests:

Amy Conklin – Coordinator  
 Marcia Greenblatt - Integral (phone)

Steve welcomed everyone and started introductions.

### Modeling

**Modeling 2018/19** - Steve reviewed the tasks of the modeling contract. The Loads Estimate task will not change allocations in the table but will look at annual loading updates. Some of the funding comes from the 2017-18 budget with the rest coming from the 2018-19 budget. This will be a second update of the model using data from 2011 – 2017. The effort does not include recalibrating, just adding data and tweaking. Steve went over the list of sources for flow data and sources for water quality data. Data collection will start with the Data Sharing Network (DSN). A lot of the sources should be easy to retrieve. Sand Creek data may be a new data point to add.

Industrial data will be a new input and it could be hard to quantify. We could consider asking the state for how much flow has been issued under the industrial permits. **Steve and Dan** will talk about the industrial permits. It's also a placeholder in case it becomes a bigger issue. The Northern Treatment Plant (NTP) is another new addition.

Flow data from Lawn Irrigation Return Flows (LIRF) is a new flow that we'd like to separate out. BMW calculated 7 cfs from LIRF in their memo to CDPHE. Marcia suggested that the most straightforward modeling technique would be to have LIRF as a separate input. **Steve** will coordinate the process. The modelers will keep the Burlington Pumps in the model and make the input one that can be reduced to zero, if desired. **Steve** will take care of having **Dan** sign the Integral contract. In terms of scheduling, Steve will be working on collecting data over the next few months and stay in touch with Integral. There will be a fee for service to use the DSN, but it won't be a huge fee.

Task 1 – Input File and Model Update (\$22,100)  
 Add data from 2011 to 2017 for all point sources  
 Add NTP  
 Adjust internal loads  
 Update precip, solar, wind, etc...  
 Review linkage between SWAT and WASP  
 Compare results to existing data

Task 2 – Memo and Presentation (\$9,000)

Task 3 – Loads Estimate (\$10,000)  
 Update existing loads  
 Potential loading changes  
 Short Report

### WQ Data (2011-2017)

- Chatfield Outlet Data
- Cherry Creek Reservoir Outlet Data
- Bear Cr. Reservoir Outlet Data
- Barr Lake (BL03) Data
- Milton Lake (MR03) Data
- FRICO Inlet/Outlet Data
- Excel Data (Arapahoe)
- Big Dry Creek Confluence Data
- Clear Creek Inlet Data
- Sand Creek Inlet Data
- Industrial Data
- Metro WWTP (North, South, Burlington)
- NTP WWTP (New)
- L/E WWTP
- Centennial WWTP
- SACWSD WWTP
- Ft. Lupton WWTP
- BDCW WWTP (Broomfield, Westminster, & Northglenn)
- Brighton WWTP
- Aurora WWTP
- Lochbuie WWTP
- Hudson WWTP

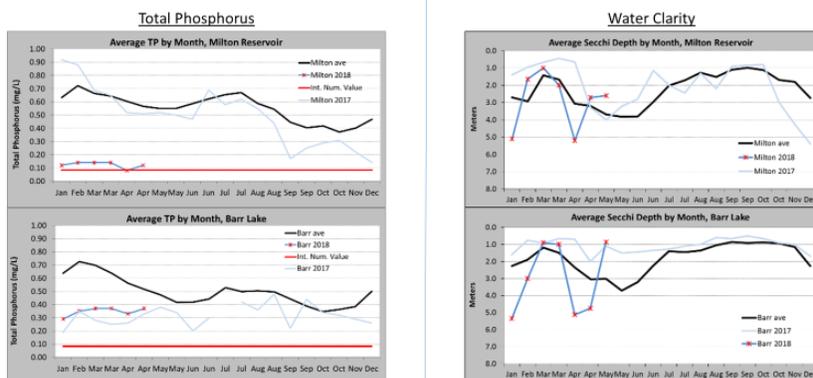
### Flow Data (2011-2017)

- Cherry Creek Res. Outflows
- Chatfield DWR Outflows
- Bear Creek Reservoir Outflows
- FRICO Flow Data (Evans #2, Little Burlington, 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> Cr., outflows, inflows, lake volumes,
- Burlington Pump Flows
- SACWSD Flows.Recharge.Cat Miller
- S. Platte River Flows
- Tani Lake Diversions
- Ditch Diversions (Fulton, Brantner, Brighton, Lupton Bottom, Platteville, & Meadows Is. #1)
- Beebe Pipeline
- Sand Creek
- Clear Creek
- Big Dry Creek
- Excel Flows (Arapahoe)
- Lawn Irrigation Return Flows (Denver Water)
- Industrial Permit Flows

## Water Quality Updates –

Total Phosphorus (TP) at Milton is close to 100 ug/L. It was drained in 2016 and was full in the fall of 2017. Jon Stednick reported comparable results. Barr is around 400 ug/L. Clarity in the lakes has also been fluctuating. There was a quick diatom bloom but now the clarity is back to 5 m at Barr and 4 m at Milton.

## Water Quality Updates



Metro has been sampling along the Burlington Ditch to evaluate how Phosphorus (P) migrates and changes as it goes along the canal. P seems to decrease a little before it makes it into Barr Lake. There are changes from inputs along the Ditch, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Creeks. The creeks are now gaged so they should be getting good flow data. Beebe canal is another input. They'll keep sampling for a while longer. A report will be prepared and will be shared. Studies have already been done on the Platte Valley Canal.

**CU-Denver Student Projects** - Steve reviewed some of the results of the student's projects. One of the story maps is posted on at [www.barr-milton.org](http://www.barr-milton.org). Another project was to measure chlorophyll a (Chlor a) in streams. The results show that not much Chlor a grows on sand. Metro is going to start stream Chlor a monitoring in the growing season more regularly. Ash free dry mass is another way to measure Chlor a they will be using. Another effort was a stormwater project developing a spreadsheet tool to prioritize areas for stormwater projects. They estimated reductions of TP to BMW TMDL from stormwater BMPs. They developed a door hangar in English and Spanish that they used for stormdrain marking events. They also looked at soil P. They took samples from city parks and golf courses to compare to lawns, background and Auraria Campus values. The campus amount was the highest, so the students will be working with the maintenance people to reduce P fertilizer application. They had some trouble getting information on and permission to sample city parks. It was much easier to work with golf courses. The data may be useful as part of legislation to remove P from lawn fertilizers. Another group looked at riparian restoration sites along 3<sup>rd</sup> Creek. They also had some access issues but were able to work on DIA property and identified a site that might be a good one for stormwater management. They also identified existing and ideal buffer zones along 3<sup>rd</sup> Creek. Steve didn't use any funds for the students' projects that were allocated but will propose it as a line item in the next year's budget.

**Aquatic Nuisance Species** – A boat at Barr was contaminated with Quagga and Zebra mussels. Staff at Barr Lake does inspections for most of the northeast Colorado lakes. The infected boat was heading to Milton. CPW cleaned it and released it back to the owner.

The ponds at the NTP are infected with three aquatic nuisance species plants. The landscaping firm put contaminated pots in the ponds. Brazilian Elodea, milfoil, and parrot feather are the

species. The company denied they came from their pots claiming they came from birds. Brazilian elodea hadn't been sited in CO before. Metro will be manually removing it and using a net to capture the fragments. The plants can't be treated with herbicides because they require 30 days of contact and the flow to the ponds can't be by-passed to allow the water to stay in the ponds that long. They will also be checking the river and Platte Valley Canal for contamination.

**Box Net Plan for Carp as a biomanipulation tool** – In his never-ending battle to defeat the tricky and false carp, Steve and his crew tried to electro shock Barr Lake last week but ran into technical difficulties. They are planning to go out another 5 or 6 times and collect as many of formidable creatures as they can. Steve is working with a professor from MN who has designed a technique to 'train' carp to go to a certain spot by baiting it with corn. He then sinks a box net under the area and when the carp come in, he captures them. He's captured as many as 2, 000 in one net. Carp Solutions is the name of his firm, <http://carpsolutionsmn.com/>.

Steve is proposing the BMW would purchase the supplies and he and his staff would install the net. Steve would bait an area for six days. They would come back out, trigger the net, collect the fish and compost. BMW could keep the net and use it as much as desired. The proposal is for \$7,500 for Carp Solutions to rent BMW the net and provide technical assistance. Steve is approaching the Friends of Barr Lake and CPW for their participation. Metro can help with some of the supplies and some funding could come from BMW. The event is proposed for October. It might be the most efficient way to collect carp.

Steve wants to use the effort to try to estimate the amount of P removed when the carp are removed. CPW has stocked Tiger Muskogee, Rainbow, Wipers and Walleye. Steve developed the annual postcard around fisheries. CPW is building a wheel chair accessible fishing dock at Barr Lake. There's public support for killing carp. The group gave a Thumbs up recommendation to the Board to pursue box netting effort because it helps improve water quality and the fishery. We won't ever eliminate carp. The goal is to get them below the threshold where they impact WQ.

**Storm Water Monitoring Station Update** – The station has been installed and is waiting for power and a cell phone modem that will talk to the equipment. GEI is testing the system. Metro will dedicate a cell phone for the equipment. Power is the other obstacle. Steve thought there was power existing there but there isn't. Xcel is working to get a meter. The City and County of Denver denied the permit because they want to see an engineering diagram of the station. Once they get a permit, Xcel can install a meter and they can get the station going. GEI has activated the system once this year and we don't want to miss more storms. The station can help us measure stormwater P levels before Denver Water adds ortho P to control corrosion.

### **Next Meeting**

Tech. Committee: July 26, 2018