

MINUTES OF THE  
BIG BEAR LAKE TMDL TASK FORCE MEETING

August 5, 2009

**Agency**

Regional Water Quality Control Board  
Regional Water Quality Control Board  
San Bernardino County SW Program  
California Department of Transportation  
US Forest Service  
City of Big Bear Lake  
Big Bear Municipal Water District  
Brown and Caldwell  
Big Bear Municipal Water District  
Big Bear Municipal Water District  
Big Bear Municipal Water District  
ReMetrix (via teleconference)  
Risk Sciences  
Santa Ana Watershed Project Authority  
Santa Ana Watershed Project Authority

**Participant**

Hope Smythe  
Heather Boyd  
Matt Yeager  
Gian Villareal (RBF)  
Scott Tangenberg  
David Lawrence  
Skip Suhay  
Randy Marx (via teleconference)  
Mike Stephenson  
Scott Heule  
John Emingier  
Rich Dirks  
Tim Moore  
Rick Whetsel  
Regina Patterson

**Call to Order & Introductions**

Big Bear Lake TMDL Task Force meeting was called to order at 10:20 a.m. at Big Bear Municipal Water District, 40524 Lakeview Drive, Big Bear Lake, California.

**Approval of June 17, 2009 Minutes**

The June 17, 2009, Big Bear Lake TMDL Task Force meeting minutes were presented for approval. Hearing no comments, the meeting minutes were received and filed.

**Update: Task Force Administration – TMDL Schedule of Deliverables, Budget Review and FY 2009-10 Invoices**

TMDL Schedule of Deliverables – Rick Whetsel provided an updated TMDL Implementation Plan and Schedule and reported that Brown and Caldwell are working on comments received on the QAPP. The Monitoring Plan has been approved. Tim Moore is currently working on the comments on the Lake Management Plan. Hope Smythe said they discussed their expectations of the Lake Management Plan with Mr. Moore, and that they are waiting for it to be resubmitted. Heather Boyd said their comment letter included numerous issues that need to be addressed. Once the revised plan is received it will be redone.

Budget Review – Mr. Whetsel reported he has just recently received all the information requested so he will begin to prepare a full summarized budget. Big Bear's costs for 2008-09 have been included and there will be more carryover than what was expected. He stated he will provide an email update on the carryover amount. Matt Yeager requested a budget update be provided with future invoices. Mr. Whetsel said he will provide an update and will include it as an attachment to all future invoices.

FY 2009-10 Invoices – Mr. Whetsel reported the invoices for 2009-10 have been mailed and stated that Big Bear Resort and San Bernardino County have paid their invoice. CalTrans' is in the mail.

**Addition to Agenda – ReMetrix 3D Resource Management Tool for Big Bear Lake**

Mr. Moore and Rich Dirks of ReMetrix provided a presentation/demonstration of a resource management tool for Big Bear Lake stating that this is an overlay on Google's satellite imaging system a three-dimensional map of Big Bear Lake that we can pan, tilt and zoom in all 3 axes to see any part of the lake in great detail. The lake has been carved horizontally and vertically into cells measuring 100' x 100' x 1'. Each

is independently addressable as a volume of habitat potential. They are defined in absolute space which means the top one foot of potential habitat remains addressable whether it has water in it or not. We can track the presence or absence of habitat based on whether there is water in a cell or not. Likewise, we can track any other characteristic that we deem important at an individual cell level. If we are tracking the temperature of the lake we can assign a measured temperature at a given depth in a given location to that cell. The same can be done for vegetation that has been measured. This system allows us to visualize an Microsoft Access database of information that is a 3D pivot table that can track any characteristic that is important to us. We have the capability to add layers. You can view but you cannot alter the model.

Heather Boyd asked what type of interpolation was being used? Mr. Moore said for the bathymetric map we interpolate the actual sonic data used by Fugro Pelagos which required some clean up by hand to make sense of it. Contouring water quality data such as Dissolved Oxygen would be based on the actual measured DO, by both depth and space. We can interpolate and extrapolate as much as we want. The only contours currently available are bathymetric. No contouring has been done of the water chemistry data yet.

While each cell is independently addressable in absolute space (each have their own zip code), as the lake level declines some things like the shoreline move relativistically. The map is capable of recalculating things like the volume of the lake, where recreation zones are, where the defined marina zones are, where the public health and safety zones are in 1-foot increments at each lake level from full to minus 50 feet. A given marina, a zone of operations, will change based on where the lake level is. The smaller the lake gets the more these zones begin to conflict with each other. That's the value of this tool, communicating progress or impairment and helping to understand a difficult concept of 3D impairment and 3D recovery over time, done in 1-foot increments so that we can compare the conditions that exist with or without the exchange agreement. The presentation ensued demonstrating the lake with and without the exchange agreement.

It was suggested that real time sensors are needed. Mr. Moore said the real time sensors are currently being used at Lake Elsinore and that if we used them they could be coupled with this process. We can overlay into a 3D into a map so that we have a 3D snapshot of the fish populations by acoustic signal that will be field validated with some net and electro-shocking but from then on the acoustic signal to measure changes in the fish population. The tools for this would cost approximately \$200,000 without the data. We have to make sure the user manual is functional. The KMZ layers that have been taken from GIS can be posted easily on the web for download. The locked version of the files can be posted to a web site with controlled password access.

### **Status Update: Watershed-Wide Nutrient Monitoring Program – Draft Monitoring Plan and QAPP, Field Training Schedule**

Draft Monitoring Plan and QAPP – Mr. Whetsel asked the status of the Regional Board's comments on the QAPP? Randy Marx said he has received an email from Nancy Gardiner which reports that she has reviewed the Regional Board's comments and does not see any problems, but that she will need two weeks to complete it upon return from vacation. Mr. Yeager said within a week San Bernardino County will be submitting comments to Nancy Gardiner regarding the readability and presentation of the document.

Field Training – Mr. Marx reported training was a two-day exercise on July 8<sup>th</sup> and 9<sup>th</sup> with 17 attendees. On the first day was a classroom training session which covered review of what stormwater requirements are and specifics on how to use the equipment and do the sampling according to the monitoring plan. The attendees were from the City of Big Bear Lake, Big Bear Mountain Resorts, Bear Mountain and Snow Summit, U.S. Forest Service, CalTrans, and San Bernardino County. He reported it went well with interest in the intent behind the monitoring program and the basic procedures. On July 9<sup>th</sup> we went around the lake and did sampling at several locations and then sent the samples to Babcock at the end of the day.

Mr. Marx referred to the draft Big Bear Lake Watershed-wide Nutrient TMDL Monitoring QA Project Plan and Nancy Gardiner's July 13<sup>th</sup> email stating they have concerns about the procedures and equipment. Mr.

Yeager said the equipment is an issue. Unless the monitoring program is abandoned or given to someone else, the Task Force should plan to budget for equipment. He stated that he agreed with Nancy Gardiner's comments and that there should be a designated coordinator. San Bernardino County does possess the equipment necessary to do sampling. There are existing issues of getting down hill and up hill.

Mr. Whetsel reported Brown and Caldwell's scope covers every component of the monitoring plan as well as the coordination. There are components of the monitoring that could be taken out and stakeholders of the Task Force could provide the in-kind services with their staff. Mr. Yeager said they may have one county person on a their regular route. Storm sampling could require an overnight stay up here. Scott Tangenberg said they have not considered buying their own equipment.

Mr. Moore suggested that because of the cost to get to this point, Brown and Caldwell needs to be in charge of the coordination. Place Nancy Gardiner in the supervisory role over the Resorts and Forest Service to pull on their staff and resources to the extent they can provide the service and she can coordinate with them. If not, she is authorized to use her staff and get it done. Mr. Yeager said they can do some of the monthly dry weather monitoring. Mr. Moore said Ms. Gardiner would also be the liaison for getting the data to Babcock.

Ms. Boyd reported that just before the monitoring plan was approved by the Regional Board, she responded by email to a request from Nancy Gardiner about what the Regional Board wanted or required regarding minimum detection levels. She provided a spreadsheet showing the levels they would like to see. There was some discussion about Babcock being a lab that would be used and not Chadwick. Babcock can't meet some of the reporting limits and because most of the samples were producing non-detects for most of the creeks during base flow events and snow melt this data is of no use in determining compliance. There is usually no problem during storm events, when the data results are high. This is why The Regional Board wanted to go with a laboratory that could meet the lower detection limits. Discussion ensued regarding the need for the lower detection limits and an appropriate laboratory to conduct the analysis.

The questions asked in Ms. Gardiner email were addressed as follows:

Response/Discussion to No. 1 – Mr. Moore said Ms. Gardiner is to oversee the effort and the county will take primary responsibility for collecting samples in dry weather conditions. Ms. Gardiner will continue coordination with the lab and sampling teams getting and reporting the data.

Response/Discussion to No. 2 – Ms. Boyd said the Bear Creek was monitored to show outflow from the lake for the model.. Mr. Moore asked if the problem was construction? Mr. Whetsel indicated that Ms. Gardiner has noted that they needed to coordinate a CalTrans escort to go down to get the physical samples. MWD staff are not available to assist on that task. Mr. Moore requested that CalTrans look into any monitoring that they are conducting for the site.

Response/Discussion to No. 3 – Mr. Moore said if it is no deep enough to collect a sample that is uncontaminated by the sediment, that is what is to be recorded.

Response/Discussion to No. 4 – Scott Heule said if it is not getting to the lake, what is the need to collect he data? Mr. Moore said no, there is no reason. Mr. Whetsel said there should be GPS coordinates in the monitoring plan to identify the exact site location.

Response/Discussion to No. 5 – Mr. Moore said as long as the meter is calibrated making sure we bracket the DO of concern , there is no need to do it in the laboratory too.

Response/Discussion to No. 6 – Regarding the chain-of-custody forms, Mr. Whetsel said Ms. Gardiner would have all the documentation and at the end of the year it would be provided to SAWPA for storage. Ms. Boyd said this should be addressed in the QAPP for record documentation storage. Mr. Moore said Ms.

Gardiner is responsible for collecting and assembling them into a reportable form at the Regional Board and then they will be stored as part of the project files at SAWPA. The documentation would be electronically scanned onto DVD and will be sent to the Regional Board once a year as part of the annual report.

Response/Discussion to No. 7 – Mr. Marx said they did not take sediment samples and asked if it should be done next time? Mr. Moore said no, it is not necessary.

Mr. Marx reported that August 27, 2009 at 9:00 a.m. for the next round of sampling. Mr. Moore said Brown and Caldwell will continue on the schedule until Matt Yeager tells them they are ready to replace them on the routine sampling.

Ms. Boyd said it would be helpful to see the Babcock data that was collected and the QA/QC data that goes with it and then discuss how it will be included in the SAWPA database. Mr. Whetsel will coordinate this with Nancy Gardiner.

### **Status Update - Big Bear Lake Management Plan**

Mr. Moore reported he spent time with Regional Board staff going over the Plan and has concluded that it has to be rewritten. He stated he can do the rewrite next week at no cost to the Task Force. Scott Heule said he would like to discuss that option with his board. Mr. Moore said he can restructure it and lay it out with causal footnoting in a week. Ms. Boyd said she would like to discuss the vegetation management plan with Mr. Moore.

Mr. Yeager asked if we will be in compliance? Ms. Smythe said there have been numerous delays that indicated the allocation will not be met for the permit. Mr. Moore will recommend that these kinds of deliverables be elevated to permit requirements.

### **Status Update - Mercury TMDL**

Ms. Smythe reported there is no new information to report. It is anticipated to be complete this fiscal year.

### **303(d) Listings and Watershed Action Plan**

Mr. Moore reported the Regional Board has recommended that Big Bear Lake be DE-listed for copper. That recommendation must now go to the State Board and EPA for final approval. Rathbun Creek is still listed for copper. It will be necessary to collect additional water quality data to demonstrate that it, too, should be de-listed. Mr. Moore suggested this might be made part of the new Integrated Watershed Monitoring Program that the Regional Board staff is proposing. The Task Force should plan to add this new data collection effort to the budget for next fiscal year.

The draft MS4 permit has been released for public comment and it contains a new provision requiring permittees to prepare Watershed Action Plans. The plans must describe the measures taken to reduce loads for all pollutants on the 303(d) list including those that do not yet have an approved TMDL. This means the permittees must begin to address the mercury and PCB issues in Big Bear Lake much sooner than previously expected. Mr. Moore recommended that the Task Force put this new obligation on their schedule for next fiscal year.

Ms. Boyd reported that the Regional Board staff submitted a letter to the California Air Resources Board seeking their cooperation in implementing the mercury TMDL. However, the ARB regulates mobile sources and has not authority over the cement plants and other fixed facilities thought to be responsible for much of the mercury contamination that results from air deposition.

**Future Scheduled Meeting**

The next Big Bear Lake TMDL Task Force meeting is scheduled for Wednesday, September 23, at 9:00 a.m. at San Bernardino County Public Works located at 825 E. Third Street, San Bernardino, CA 92415.

**Adjournment**

There being no further business for review, the meeting adjourned at 1:10 p.m.

**Handouts**

1. Implementation Plan/Schedule
2. ReMetrix 3D Resource Management Tool for Big Bear Lake – Draft 6/30/09
3. Field Training – Email
4. Watershed-Wide Nutrient TMDL Monitoring QA Assurance Project Plan - Draft 6/22/09