

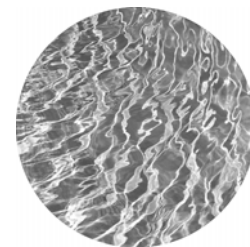
Barr Lake/Milton Reservoir Watershed Association

2006 Technical Committee Meeting Minutes

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|-----------|------------------------|-----------------|
| #1 | July 25, 2006 | pp.2 - 3 |
| #2 | October 3, 2006 | pp.4 - 8 |

Barr/Milton Watershed Association

Technical Committee



BMW Technical Committee Meeting
 Tuesday, July 25, 2006
 Metro Wastewater, Administration Building
 1:00pm – 2:30pm

Committee Meeting Notes

- 1. Attendance** (official attendance sheet was passed around)

Steve Lundt (Metro)	Laurie Rink (FRICO)
Chris Piper (Denver Water)	Kelly DiNatale
Todd Harris (Metro)	Randy Ristau (CDPHE)

- 2. Reservoir Assessment Update**
 - Everyone liked the presentation by Jean Marie at the board meeting that morning.
 - Laurie Rink, Kipp Scott, and Kelly DiNatale will all follow up with FRICO staff to discuss the issues around less sampling events in 2005 and what it will take to update the Milton Reservoir inflow dataset.
 - It was also agreed to establish a meeting system between BMW and FRICO to keep things rolling when it comes to data sharing and technical work.

- 3. Water Quality Modeling**
 - The 5 candidates that turned in a statement of qualifications were discussed individually.
 1. Bruce Fenske = Agreed that he did not have experience with western reservoirs
 2. Scott Wells = Agreed that he had good experience and liked the CE-QUAL-W2 model but did not like the fact that graduate students would be doing some or most of the work.
 3. Integral = Agreed that they did not have as much experience with reservoir water quality modeling
 4. ENSR = Agreed that they had great experience, liked their approach as first trying a simple model before getting to fancy, and liked that they had a local office in Colorado. Ken Wagner is know by Kelly DiNatale and Steve Lundt and both had great things to say about Ken.
 5. Hydrosphere = Agreed that they have the best knowledge of Barr and Milton but are cautious about continuing to go with Hydrosphere.
 - Technical Committee agreed to interview ENSR and Hydrosphere.
 1. Time = 1:00pm – 5:00pm on September 26 right after BMW board meeting
 2. Location = Denver Water (Chris Piper will reserve the room)
 3. Schedule = 15 minutes for qualifications and 60 minutes for interactive presentation on approach. Allow another 15 minutes for questions. Then do it again for next firm.
 4. Will send out Reservoir Assessment draft report to ENSR
 5. Will leave it open-ended for ENSR to contact Steve Lundt for any kind of tour of the watershed and reservoirs.
 6. Will include Jim Saunders from the State on this process

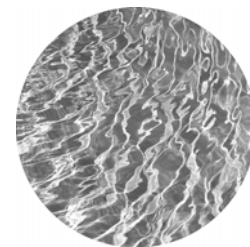
- Committee members will send Steve Lundt questions that they wanted asked.
- Steve Lundt will send out a reminder close to the interviews to have members review the statement of qualifications.
- Steve Lundt will contact all 5 entities to let them know what was decided
- Kelly DiNatale suggested that the Technical Committee develop official policy on selecting firms for contract work to avoid any conflicts in the future.

4. Next Meeting

- Interview Modeling Consultants - September 26 1:00pm to 5:00pm at Denver Water

Barr/Milton Watershed Association

Technical Committee



BMW Technical Committee Meeting Tuesday, October 3rd, 2006 FRICO Office 12:00pm – 3:00pm

Committee Meeting Notes

1. Attendance

Steve Lundt (Metro)	Todd Harris (Metro)	Laurie Rink (FRICO)
Laurie Rink (FRICO)	Joni Nuttle (CDPHE)	Alice Wood (Integral)
Chris Piper (Denver Water by phone conversation before meeting)		

2. Discuss about Modeling Interviews

General Discussion

Steve Lundt passed on Chris Piper's comments which were: Chris Piper felt that both firms were equally qualified to do the modeling and would support a decision for either one. Chris thought that both were well experienced in modeling, could do an equal job, and that both firms had a good understanding of the watershed and project.

Laurie Rink also updated the committee that Jean Marie Boyer spoke with her today that Hydrosphere was not comfortable with giving the committee an electronic copy of their interview presentation. Reason was that most of their presentation was based on the oral presentation of the approach and that the presentation might be taking in the wrong way if given to a person that did not attend the interview. Hydrosphere did offer to do another presentation if there was a need. Kelly DiNatale did not like this as well as others on the committee thought it was strange not be willing to provide at least a pdf of the presentation.

Then the committee started sharing their thoughts and ideas that about both firms, models, interviews, and proposals:

1. Kelly DiNatale stated that we should judge and select the firm based on the firm and not on the actual models that they are promoting. Either firm will do any of the models if we request them. The key is on the actual individuals and firms and how they match the needs for the project. Steve Lundt responded saying that he has been approaching this selection decision by focusing on the evaluation of the actual proposed models.
2. Todd Harris reminded the committee that there is \$75K in the budget for a third party and maybe both firms can be used with ENSR doing the work and Hydrosphere doing the review. Kelly DiNatale responded saying that you might just get the other firm to nit pick the modeler then. Alice Wood then stated that that might not be such a bad thing and that they can really analyze the model.
3. Then Steve Lundt suggested that the committee really needs to decide what objective process was going to be used to select the firm. It was agreed by the group. Alice Wood suggested listing the important criteria and have the committee score them. Kelly NiNatale disagreed with this because folks will adjust their scores to fit their pre-conceived view.
4. Kelly DiNatale then stated that the two firms were very different in their overall stakeholder involvement. ENSR was much more a leader of the entire group and will provide more stakeholder involvement while Hydrosphere will just crunch out a model and not be much involved with the stakeholders in the whole process. Joni Nuttle's comment was that is what the request for statements of qualifications only says, to focus only on the model, not on stakeholder engagement or participation.

5. Laurie Rink's gut feeling right after the interviews last week was to go with Hydrosphere and have them sub-contract with just Ken Wagner as the lead limnologist. Laurie Rink, if had a choice, would select a consultant that would have a limnologist as the driver and not just an advisor. Kelly DiNatale responded in that he suspects that there will be many limnologists eventually involved with BMW and that lead limnologists will be strongly involved. Example is that if Metro does not like the modeling results, will probably hire Bill Lewis as their own expert limnologist. Steve Lundt stated that it was the goal of the BMW group and technical committee to avoid multiple limnologists and modelers but others thought that it was inevitable.
6. Alice Wood felt slightly hesitant with the WARMF model package that Hydrosphere proposed because it was kind of like a black box with not much understanding of the modeling process. While ENSR stated that they would look at each output from the watershed model, and then use the results for the reservoir model. Alice liked that ENSR was going to look more deeply into the modeling results and interactions between models.
7. In general everyone liked the idea that ENSR proposed much more face-to-face interactions with the stakeholders throughout the modeling process. Hydrosphere mentioned very little about interacting with the stakeholders and just doing the modeling.
8. There was general concerns from the committee that basically ENSR is out of state and Hydrosphere is local. There are pros and cons for both. Alice Wood wondered if say \$10,000 was used on out of state traveling for meetings was going to take resources away from the project that could have otherwise been better used. Steve Lundt reminded group that ENSR suggested that it should take a year to do the modeling that would probably mean monthly visits.
9. Kelly DiNatale stated that he checked with CDM about WARMF and found out that CDM does use WARMF and likes it. He did find out that it is hard to learn how to use and that it is not a just a simple 2-day training class for the end users. WARMF is very complex and takes time to figure out. WARMF also has the usual bugs and problems within it like any other model.

Then each person spoke their mind about who they would select and why

Kelly DiNatale – Kelly's vote is for ENSR because they provide more information about the lakes, about doing workshops to involve the stakeholders, and because they seemed more experienced. But he was willing to suggest another round of interview for both if needed. Kelly felt that both could do an equal job of modeling but felt that ENSR could do a better job at leading the stakeholders through the entire process to a TMDL.

Todd Harris – Todd was leaning towards ENSR for the main fact that Ken Wagner was on their team. Without Ken, ENSR would not be as strong and we should insist that he provide the leadership role. Hydrosphere was also qualified, but he was not sold on WARMF.

Steve Lundt – Steve stated that right after the interviews he was for ENSR. But now after looking over the different models and the WARMF package, he is leaning more towards Hydrosphere. Steve felt that both are equally good. If he had to select now, he would have to pick ENSR just because their approach at starting with the watershed model first to see what kind of model to use in the reservoir made more sense because of the flexibility. He also mentioned a concern that Hydrosphere has not used WARMF before.

Alice Wood – Alice also said that she is leaning towards ENSR. She is not sold on WARMF. Alice also stated that she thinks Ken Wagner is a stronger speaker and project leader and that Jean Marie Boyer seems to have a level of confidence that provides some hesitation when answering questions and working with stakeholders.

Laurie Rink – Laurie is leaning towards ENSR slightly more than Hydrosphere based on the limnological experiences and leadership of the team by Ken Wagner.

Kelly DiNatale – Go with ENSR for sure. Kelly thinks both can do a great job at modeling but feels that ENSR would do a better job working with the stakeholders. A model is not just the end product here, need to lead the stakeholders and work this them along the way.

Joni Nuttle – Joni is familiar with Hydrosphere and feels that they would be best because they have the best knowledge and experience working in Colorado and with BMW for the past 3 years. Joni stated that the request for qualifications might have been misleading and only asked for a model, not a model with in-reservoir management ideas and stakeholder involvement.

To sum up: everyone agreed that the committee could not make a wrong decision here because both are very capable at modeling and doing the job well.

Laurie Rink then specifically asked Joni Nuttle twice if she had any major concerns or red flags with either consultant in respect to the CDPHE work with developing nutrient standards for the reservoirs. Joni answered by saying saying no. Joni did state that it is important to not forget to model the reservoir because the TMDL and standard numbers are for in the reservoir, not from the watershed. Her example was that Cherry Creek watershed has done a great job at modeling the watershed but has not done so well with modeling the reservoir to come up with good, reliable numbers for the reservoir. Joni did favor WARMF because it assures her that both the watershed and reservoir will be modeled equally since the models are linked within WARMF.

Objective Scoring

Alice Wood then suggested coming up with an objective ranking of a list of important aspects that we are looking for in a modeling consultant. So the committee brainstormed a list of 12 criteria that are thought to be important. Then the committee verbal discussed their thoughts about each criterion and then gave a group ranking.

List:

- a. Limnological Background and Experience
- b. Prior Knowledge of the watershed
- c. Understanding of general watershed dynamics
- d. Stakeholder dynamics, experiences, and communication skills
- e. Modeling approach
- f. Graphics and Communication tools
- g. Local staff (how much does this matter) (*not as important*)
- h. Experience with in-lake techniques
- i. TMDL experience
- j. Quality of proposal and level of effort (*not as important*)
- k. Future potential expanded consultation (*not as important*)
- l. Cost of future consultation (*not as important*)

Ranking and Discussion of each criterion: (*Kelly DiNatale had to leave the meeting*)

- a. Limnological Background and Experience: **ENSR**
Ken Wagner has 30 years experience while Jean Marie has 18 years experience
- b. Prior Knowledge of the watershed: **HYDROSPHERE**
Hydrosphere has been working with BMW for past 3-4 years and ENSR is new
- c. Understanding of general watershed dynamics: **EQUAL**
Both seem to have a strong understanding and experience with how watersheds function
- d. Stakeholder dynamics, experiences, and communication skills: **ENSR**
ENSR spoke more about doing workshops with stakeholders and involving stakeholders throughout the entire modeling project. Hydrosphere did not mention this.
- e. Modeling approach: **UNKNOWN**
Laurie Rink and Steve Lundt favored ENSR but there was no major conclusion on this one.
- f. Graphics and Communication tools: **EQUAL**
Felt that both consultants would do a good job at presenting the results and conclusions
- g. Local staff (how much does this matter) (*not as important*): **UNKNOWN**

No conclusions with this one. Hydrosphere is obviously the more local consultant. The Ft. Collins office for ENSR is close but not really where the main work will come from. It was also agreed that this is not a very important criterion for the committee.

- h. Experience with in-lake techniques: **ENSR**
Similar to a., it was felt that Ken Wagner provided more information about in-reservoir ideas and he has more years of experience.
- i. TMDL experience: **EQUAL**
ENSR has more experience nationally while Hydrosphere has more experience locally in the west and Colorado. Both national and local experience are good.
- j. Quality of proposal and level of effort (*not as important*): **EQUAL**
Both firms have done a great job with the presentations, contact Steve Lundt for information, and the statements of qualifications are equally great.
- k. Future potential expanded consultation (*not as important*): **EQUAL**
It was felt by the committee that any future modeling/technical needs down the road could be handled by either consultant and that there were no worries either way.
- l. Cost of future consultation (*not as important*): **UNKNOWN**
No ranking was done for this criterion since the committee did not have any hourly rate information.

Summary of ranking:

ENSR = 3

HYDROSPHERE = 1

EQUAL = 5

UNKNOWN = 3

Evaluation of Approache and the Major Differences

Next, the committee really focused on the major difference in the two approaches.

Difference #1:

ENSR wants to start with watershed model first, then move to a reservoir model

Hydrosphere wants to start with a reservoir model first and then or at the same time work on a watershed model.

Difference #2:

ENSR wants to use SWAT for the watershed and either BATHTUB or QUAL2K for the reservoir

Hydrosphere wants to use WARMF that includes SWMM (watershed model), ILWAS (river model), and CE-QUAL-W2 (reservoir model).

Difference #3:

ENSR's approach is more flexible and open to using the appropriate reservoir model after doing the watershed model.

Hydrosphere's approach is set with using the models that are included with WARMF

Difference #4:

ENSR's approach volunteered more information about their efforts to include stakeholders and consensus building with the BMW association.

Hydrosphere's approach focus strictly on producing good models that will work

Difference #5:

ENSR's approach included a strong emphasis on stakeholder training of the model and self sufficiency with the models.

Hydrosphere's approach did not include that much emphasis on stakeholder training.

Final Committee Recommendation to the BMW Board:

The recommendation is that the committee is leaning towards ENSR but there was not a full consensus on this. The committee objectively scored both consultants on a list of 12 criteria and the results were close and slightly leaning towards ENSR. If the board is comfortable with this, then ENSR would be the recommended modeling consultant. The committee also would recommend if the board is not satisfied with the level of commitment, then we do a second round of interviews with both consultants for the board. If later is the case, then the board also needs to decide if all

stakeholders need to be encouraged to attend or how to proceed with the December 12th stakeholder meeting.

Since this is such a major decision, the committee feels that it is important to discuss this with the board after the October 24th stakeholder meeting.

3. BMW Database Updating

Steve Lundt gave a quick update on the current status of the BMW WQ database. The database has up to 2002 data. To be ready for the modeling and for general good practices, the database needs to be updated with 2003-2005 data from the original 15 entities.

It was then discussed on what would be the best way to update the database. Four options came to mind: 1. contact hydrosphere to update it, 2. contract Integral to update it, 3. sent out bid to both hydrosphere and Integral, and 4. internally do it ourselves.

It was quickly agreed that the more efficient way to update the database is to have hydrosphere do it. Alice Wood expressed some reserves that it would be nice to have Integral do it because their contact does cover some technical aspects, but she also agreed that it would cost more time and money for them to figure out the database and QA/QC procedures.

Then Laurie Rink recommended that someone from the committee spend some time talking with the 15 entities to see how much data they have for 2003-2005, how readily available is it, what condition is the data in, and a time frame on getting it to us. That way, we can present all that information to Hydrosphere so they can better estimate the cost to update the database.

The committee also looked at the operating budget and found a few places where money can be used for this. It was also recommended to put a line-item in the budget for BMW WQ database updating. Steve Lundt stated that eventually, this updating can be done internally or by the coordinator. It would be good to get clear instructions on how to QA/QC the data and the process to get the final data into the database.