Interbasin Compact Committee (IBCC)
December 2, 2009
8:30a.m. – 5:00p.m.
Sheraton Denver West Hotel
Lakewood, CO

IBCC Members

Jay Winner
Eric Wilkinson
John Porter
Marc Catlin
Melinda Kassen
Mike Shimmin
Jeris Danielson
Steve Harris
Stan Cazier
Chips Barry
Peter Nichols
Ray Wright
Carl Trick
Bill Trampe
Carlyle Currier
Rod Kuharich
Eric Kuhn
Jeff Devere
Taylor Hawes
T. Wright Dickinson
Sen. Bruce Whitehead
Steve Vandiver
Wayne Vanderschuere
Mark Pifher
Dan Birch

Staff /Technical Team/Board Members

Eric Hecox, DNR
Todd Doherty, DNR
Greg Johnson, DNR
Jacob Bornstein, DNR
Mike Sullivan, DNR
Rebecca Mitchell, DNR
Sue Morea, CDM
Jennifer Gimbel, CWCB
Alex Davis, DNR
Nicole Rowan, CDM
Viola Bralish, DNR
Jim Martin, DNR
Ray Alvarado, DNR
Rebecca Mitchell, DNR
Barbara Biggs, CWCB
Veva Deheza, DNR

Members of the Public were present

The meeting got started about 30 minutes late because of snow. Alex Davis started out the meeting by going over the agenda and talking about the goals for the day. She introduced the new Executive Director of DNR; Jim Martin then turned the meeting over to Eric Hecox.

Refer to the meeting presentation and materials for additional detail.

Context for the Meeting – Eric Hecox

He reviewed the previous meeting, talked about the goals for today's meeting, and talked a little about what would happen in the March 2010 meeting.

Discuss Evaluation Criteria

Several members needed clarification as to how the tool works and wanted more detail on conservation and other components of the tool. The group discussed conservation in the tool and wanted additional clarification at the March meeting. Sue Morea discussed the evaluation process, and gave an overview of terms.

Panel Discussion – Jeff Devere, T. Wright Dickenson, Wayne Vanderschuere, Chips Berry, and Alex Davis reviewed and discussed the following individual elements of the thematic portfolios:

- Conservation
- New Supply Development
- Agricultural Transfer
- IPPs

Jeff Devere – Discussed water conservation. He discussed conservation in different parts of the world. Pointed out Australia is down to about 41 gpcd for residential and in other parts of the U.S. ~160 gpcd is fairly low when including industry and commercial. He said there is a design cap in systems and those design caps only change when there are major changes in technology. Existing systems are reflective of cultural norms. His overall conclusion was aggressive conservation is needed in order to pressure changes in system design (i.e. push the technology), but conservation can't be relied upon to meet everything.

T. Wright – Discussed Agricultural Transfers and the Status Quo portfolio. He said all of the thematic portfolios are unacceptable for agriculture. The question is how do we put out an alternative. For the first time the state is looking at real alternatives. He discussed alternative ag transfers as a "bandaid." His suggestions for keeping ag viable is going after inefficiencies, provide ag the C.U. it needs and bring saved water to the cities.

Ray Wright had a question regarding no Ag transfers after 2050, the way he sees it there is no alternative if population does grow that much by 2050.

Chips Barry – Discussed IPPs. He discussed how IPPs are difficult to score because individual IPPs are so different. He noted how the IPPs give more water than other strategies and discussed how we would be well served to work with IPP proponents to shape them into acceptable projects.

Wayne Vanderschuere – Discussed Colorado River Development. He said we need to develop performance measures to be able to better assess if we are meeting goals. He discussed how this exercise starts us down a good path and helps define what success looks like

Alex Davis wrapped up the panel discussion and set the stage for the breakout session.

Breakout Sessions

The purpose of the breakout session was for each group to construct a portfolio to meet the 2050 mid-demands. They were alto to use the portfolio tool to determine amounts from IPPs, conservation, ag transfer, and new supply. The groups were to assign qualitative scores to each vision goal the portfolio they developed and provide a reason for the score.

Report from Breakout Sessions

Eric Kuhn reported for Group 4 – Our goal was to look at minimizing ag transfers. We know that zero is not possible because in the IPPs there are ag transfers that occur because of growth onto ag lands and because people have already acquired ag water rights that will be transferred. We looked at what

conservation levels would be necessary to achieve no additional ag transfers. What we came up with is 40% conservation and 50% reuse or alternatively 25% conservation and 75% reuse (you come to the same place). We gave this one pretty good scoring, but with a blank on cost effectiveness because we were following instructions saying there's probably not enough information there. If we could do it protecting cultural values and optimizing existing water supplies and even meeting environmental and recreation needs the scoring would be higher.

The second scenario we considered started from the fact that 40% conservation and 50% reuse versus 75% reuse and 25% conservation you get the same result. That may be a practical way to deal with things because a number of entities may have more potential for reuse and others for conservation so it's a goal. We then looked at the 350kaf from the Colorado River System. We were following instructions that this is a medium supply but some of us felt that even at a medium supply this may be a little bit high. So what happens if this 350acft was actually something like 233acft and that's 133acft for the west slope and 100acft for the east slope leaving cons at 25% with 75% reuse leaving IPPs at 60 that meant that we would have much less ag transfer in the South Platte and Arkansas basins. What this showed is the trade off of the CO river water, dropping from 214acft to 100acft results in additional ag transfers.

The third thing we did was to get a little more aggressive on the 60% IPPs. Everyone understood that going from 60-80 was a really aggressive goal and it may not be attainable. What would it mean leaving the Colorado River at the same amount, cons at 35 with 75 reuse, and you can see it drops the numbers from 15 and 20 to 12 and 15 in terms of ag. A little bit of a trade off 20 better on IPPs resulted in 5 and 3 less lands out of ag in the sp and ark basins. Is 0% ag transfers beyond IPPs, is that attainable what does it mean? What it really means is aggressive conservation and reuse the co river water has to be there and we have to be really aggressive on IPPs.

Eric Hecox comments, we are going to do a little more work or verification on the reuse because when we were having discussions with the panel members Wayne brought up this fact of the reuse factor can differ with different systems. What we have in there is more typical of the South Platte system so we are going to go back and look at that.

Mark Pifher reported for group 2 – We didn't focus on the ag component that was our default number but one of the objectives was to minimize the amount of land that would have to be taken out of ag to meet the water supply gap so we sort of worked to that number at the end. We started with conservation and landed on 30% as something reasonable and achievable as a state wide objective based on the 2000 baseline. We did have some discussion that there may be some areas of the state where there's a very high gpcd currently that might be able to exceed that 30% savings.

We went onto IPPs, we asked where did the Metro and Platte numbers come from because we felt they were too low, Jacob clarified for us what projects were looked at in making that determination. We decided that in the Front Range we should be able to do better than that so we moved the South Platte number up to 60 and the Metro to 80. Some of those projects are fairly well along and they should be able to be completed, that may be a little aggressive but we thought it was real.

We looked at the reuse component and had a far ranging discussion, there are 2 determinations that we thought were involved in reuse rather than just picking a single number and that is either the transbasin diversion or the ag converted water what % of that would actually be subject to the infrastructure that could pick it up and reuse it. So that's the first determination and originally the state assumed 100% of the water could come back through and then the only number you have to calculate is what % reuse do you get. We were very uncomfortable with assuming the infrastructure would be in place to bring back 100% of the returns. There was some discussion that 50% was reasonable to assume that people would put in the wells or diversion structures then we assumed a factor of 1.6 as to how much reuse you would actually achieve then and we ended up back with the number the state originally used which was a 1.3 factor.

Then we turned to new projects and looked at a variety of different scenarios we thought if you assume that 350acft is a reasonable mid range number, if you only allocate 100acft to the East Slope and 250acft to the West Slope where's that 250 going? Could we all agree the objective is to fully utilize one way or another our compact entitlement as a whole state but on the west slope if you set aside oil shale development then 250 we felt by far only exceeds the demand but then you have the wild card in there we discussed nonconsumptive needs and uses. What are those how you quantify them and what % does that have to pick up. We said does the nonuse portion on the west slope come to the east slope? That number we felt a little unrealistic given permitting difficulties and nonconsumptive demands and other things so why don't we just split the 350 to 175/175 and dedicate a portion of the west slope water to instream flow and environmental demands of some sort where ever they may occur.

Our portfolio is wonderful we have nothing but happy faces except for environmental demands which is half happy. I think only 15% loss of ag lands, 15% in the South Platte and 11 in the ark which we thought was pretty good, some think that there's basically unproductive lands that are utilizing a fair amount of water and if you could somehow isolate them and transfer from those areas you which your objective.

Dan Birch reported for group 1 – We took a look at a number of factors and we spent the bulk of the time not talking so much around what's in the tool as having general discussions which were interesting but we didn't really play too much with the model. We thought more emphasis needed to be put into the IPP and what we really needed to look at was a higher success rate. We needed as a statewide basis to generate more support for the successful implementation of those; we used a factor of 80% success rate for IPPs. What's feasible and practical to do in terms of water conservation, this is not a number that everyone agreed with but we used 30% conservation factor. In terms of new water supply development from the West slope we came up with 30kaf. One of the points that we talked about is it may be impractical to do something in the middle of the range for Colorado River supply. Initially we were kicking around 100acft supply that may be just kind of an unreasonable middle ground because it has the same fixed cost of a larger project but a much smaller yield. We felt that you would be looking at a relatively small project out of the Colorado or a relatively large project, but not something in the middle. For our portfolio we used 30kaf out of the Colorado. In terms of ag transfer you'll see the figures here were probably higher than some others. Total reduction in irrigation acreage was 24%

statewide: 21% in the Arkansas and 26% in the South Platte. Those numbers sound high and are probably higher then what people are comfortable with but the thing that we felt it would be worth looking at several factors: what's the natural rate of conversion ag lands, as development takes place you are going to lose ag lands. Also, there is a certain amount of marginable ag land you're probably going to see irrigation stop on that land for other reasons. There is probably an amount of irrigated acreage that you could successfully mitigate not just make it a buy and dry scenario there are probably opportunities for rotation fallowing. The suggestion from our group in the next iteration of the model is to take a look at ag conversion and get into a few of the detailed questions about how you might implement that and do it in a way that's less harmful to agriculture.

Peter Nichols reported for group 3 – Our goal was to minimize ag transfers statewide and we had the advantage of having Greg and Becky with 2 computers set up with the model and as we went through things we would adjust one variable and play with it until we found what we thought was optimal and then would adopt that as our next stepping off point. The reason we wanted to minimize ag transfers is because we think ag land is important culturally with the state of Colorado but more importantly as a food source for the entire world.

IPPs we didn't feel we knew a lot about, to second guess what was going on. Our understanding was that there was sort of a brain trust of people at CWCB and staff who went through and decided that these were reasonable numbers. So our inclination was to accept the assumptions that were in the model with a couple of exceptions. One was the South Platte and the other one was the Metro, both of those looked pretty low there's a lot of water involved there and what we thought was that with a lot of determination by the state maybe we could raise the success rate by a 1/3. Raise the South Platte from 45 to 60 percent success and the raise the Metro from 30 to 40 percent success and we put that in.

We looked at conservation we decided it didn't really matter except in the Arkansas, Metro, and the South Platte in terms of how much water it produced for the bottom line. We decided 40% would be aggressive for conservation for new growth as opposed to the 2000 baseline but that was something that could be a reasonable part of a mix.

We looked at reuse, it was 60% in the model we played around with various things and decided to up it to 80% thinking that if you're going to move water over to the Front Range then they should use water as efficiently as they can. We also looked at reuse direct versus exchange and the model was assuming a 50/50 split. We were thinking that maybe 25% direct and 75% exchange is reasonable but we noted that has an indirect hit on Ag if you increase the reuse then the agricultural entities downstream that have been benefiting for decades then lose that.

Finally we looked at the use of additional water off the West Slope. We looked at 350kaf. We weren't as creative as the others but we looked at it 2 different ways which was the little buttons on/off. If you allow 100acft to come to the East Slope then what happens to the rest of it on the West Slope versus what happens if you allow the water the West Slope doesn't need to go over and be used on the East Slope. It turns out that it makes a lot of difference; our preferred scenario is sort of in between those 2 things. Keep the water on the West Slope then it results in about a 10% statewide reduction in Ag in

2050. However if you share that 250acft between the east and west slope that reduces that loss of Ag to about 6% so the difference there indicated to us that this was very significant thing that we wanted to talk about. We think that it ought to be discussed is there some way to make this water available from the west slope to the Front Range to defer the dry up of east slope ag but somehow reserve this water for future west slope development or maybe share it in between the east and west slope. This is something we felt was worthy of discussion in the future and something we would like to put on the table with regard to that issue and its impact on Ag.

Alex Davis wrapped up the breakout group reports and turned the meeting over to Eric to talk about some updates on some of the technical work being done.

Technical Support and Needs Assessments

Eric Hecox spoke about the progress memo that was passed out that lays out all of the tasks and provides a brief update on the technical work done to date. It also has a summary of what we are currently working on. Attached to that is a preliminary outline of a report that would bring all the pieces together. He asked everyone to take a look at it and ask any questions about it at the end of the meeting.

Presentation of Colorado River Water Availability – Ray Alvarado & (Aecom) Blaine Dwyer, Ben, & Erin Wilson *(see presentation on website)*

Jennifer Gimbel – What I want to do is remind you of what the study does and what it doesn't do. What it does is it tells us at any point and time and any place how much water is physically then legally available and it's not just one number it's a range. It does not tell us is how much water we have left to develop under the compact because to determine that amount you have to make a lot of assumptions. Now Blaine has said that this study does not talk about conditional water rights, so when we are talking legally available we're assuming no conditional water rights. Phase 2 puts in that analysis with respect to conditional water rights and helps us then kind of a risk analysis, again it all comes down to a risk analysis, even with our compact development do we use 7.5 million acft a year as our compact entitlement or do we use 6.43 which the bureau used for a while? What do we do, we're not to that point yet and it will be a while before we get there. We have phase 2 under existing conditional and new water projects, we have phase 2 of this study we have the Front Range coalition study so we need to compare and I think it would be great to bring them in and have them talk to us about the results of their study. We have the compact compliance study that's going on with CWCB and that's the one we will get more into what are those assumptions, how far do we think we can go. I want to make clear the state is not going to come out and say we have x amount of water to develop under our compact entitlement there's just way too many assumptions to go into that and unfortunately some folks had the impression that was going to happen and I wanted to make that clear.

Carl Trick– I think the mid supply scenario is pretty appropriate, some of these extreme events are going to be wetter or whatever and we need to have more storage. If the modeling shows for more of these scenarios and whether we support some of these bucket concepts. We need a few more to compensate for these extreme weather events and it would nice to have these added in. I promised T. Wright I

would do this, the forest issue he strongly feels there is enough information to incorporate into the model. The dying of the forest and the water yield, I don't think there has been a scenario yet to the magnitude that we have today. I'm not a scientist, he asked that this be raised and brought into the discussion.

Ray Alvarado answered, if there is some literature or science that we have overlooked or that T. Wright has on hand that will help us we are more than willing to look at it. We've talked to the experts at the experimental forest and the conclusions are for this study it's just not appropriate to look at forest change.

Meeting concluded at 4:30, next meeting taking place March 5, 2010 in Denver.