

## COMMENTS FROM BREAKOUT GROUPS

### Process

*What kind of process could be used to explore optimization of the reservoir system to potentially improve water supply?*

Provide an environment where informed parties can get to know each other as people; the process needs to recognize social influences. (Talking together and listening together.)

Set up an advisory group, considering the legal players, made up of technical people and all of the stakeholders – to make technical and policy recommendations. This group becomes valuable because it can speak with one voice.

Get the people who choose to be interested and provide the infrastructure where those people can share their information.

Form an ad hoc committee – maybe self-selected – that battles it out in a communal way and then comes to the judge or legislature to bless an agreement.

Map the groups. We need to think about what we're trying to do in a more sociological way. We have plenty of engineers and lawyers in the kitchen, but few, if any, sociologists who can help sort this out from a perspective of *social* interactions and how all the myriad groups involved can be brought together and engaged in a meaningful and productive way. The first step would be to “map the groups” to define who's where, so to speak, and chart their particular processes.

How many people do we need to educate about the issues of the reservoir system?

Espanola basin process example: They are using water basin boundaries to create a strategy ... it includes several cities and pueblos. Have been meeting monthly for two years looking at the basin, building trust among the disparate governmental jurisdictions by developing collaboration. They move the meeting around to each jurisdiction. They are beginning to see the commonalities among the interests, and to develop a “water dialogue.” Question: Is there stable membership? How can you stabilize the membership – by regulation? Answer: It is coordinated by LANL. Counterpoint: LANL has substantial resources to generate this. Look at the power dynamics.

There is no unified voice from science about what needs to be done. Need to build a foundation.

A collaborative process, such as on the Pecos River, should start happening now. The ESA Collaborative process on MRG isn't always collaborative.

We need an outside pressure – maybe it is the drought – something that makes people feel that there is an imminent “do something or else.” Maybe it is the climate study – we are going to have more variation in climate. A good threat is one of the best coalescing forces there is.

Does the technical end of management of a scarce resource tell us what choices we have in managing this resource?

Water managers manage water for different reasons than people who are working on restoration manage water. To work on optimization, get the two groups talking to each other. The Corps is involved with this. It must include all values involved in the system and be a multi-stakeholder process. The process must bridge the gap between the scientific community and interests of people on the other side. Move beyond the hard science studies.

The value of inclusiveness: The parties all have to understand one another's perspective.

Proposed action stemming from inclusiveness: form a clearinghouse – link the variety of interests through some common network.

Need a neutral party to organize and lead. Need distribution of leadership. Need leadership to advocate for change in authorizations.

Whoever it is can't have a direct stake and needs to be able to get everyone involved. Thinks Utton Center can do this well.

What is it that we want the Utton Center to do that we're not doing with what we have? We have tons of cooperation. What do we need that we aren't doing? What is it about all of those things cumulatively that isn't working? I don't know the answer, but that's where the discussion needs to go.

This sounds like the URGWOPS process. Why do people think that's not the process?

Response: This should be more comprehensive – consider changes to existing authorizations. Someone needs to come in with enough leadership, joint or singular, that if a reservoir needs a change in authorization, the group needs the clout to be able to do it. There were people who didn't participate in URGWOPS.

Changing the operation of a reservoir would involve NEPA and must involve owner of reservoir.

How do you get the stakeholders to move beyond their own personal self-interest? Can the Utton Center help with this? This is the place we get stuck no matter what we do.

### **Objectives of Maximizing Operation of Reservoirs**

No trouble finding consensus that operating reservoirs is one of the most clear cut activities we could undertake to optimize use of water resource. Never attended another conference where optimization of reservoirs has been the central topic.

Counterpoint – Reservoir management is not an idealized activity, we need multi-dimensional semi-optimization as opposed to an idealized mathematical model. It's hard to step back and look at the MRG – what is the greater good?

We need to develop our goal. What exactly are we ultimately trying to optimize? Talking about managing reservoirs is a tool. It doesn't define the goal.

Generally only one objective function can be optimized in systems management – so what is the primary objective function? If the discussion is limited to reservoir management, what are the things reservoirs do?

- Downstream yields
- Flood control – equalizing the curve
- Minimizing losses
- Recreational fishing
- Equitable distribution for demand
- Increasing system efficiency
- ESA requirements
- Opportunity for measurement

What is the purpose of optimization: for the State to meet Compact obligations v. cities' use v. Pueblo's strategies? We need to understand the magnitude of each party's relative use.

## **Decision Process – Decision Makers**

Who runs the system – under what authority?

Discussion of the daily water ops phone call. This is a mutual information process - who is doing what – not a decision making process.

Who makes the decisions? Political decision making - should decisions be democratic? – not feasible. Do we leave the decision on the fate of the river to management or to elected officials?

Issue of not knowing about Pueblo governments – with their election of a new governor every year, lack of continuity.

Need to know all of the political players up and down the system.

Need to address reservoirs in the legislative context. Must have something that goes to both the legislature and the agencies. (But be cautious of the agencies because they all have special interests.) History of legislation: the States get together and go to Congress.

Perhaps leadership needs to be distributed. That's the point. We want someone with courage to change the rules. Everyone else is limited by their authorization. Need to maintain good, informed leadership.

Clearly those who operate the dams have to have a part, although you still need a neutral party like the Utton Center.

Do a white paper on the existing decision making processes – if the conclusion is that they are insufficient to get the job done then propose a new structure.

Two levels of problems: operational level (can we change operations of the reservoirs to operational optimization?) and public choice/legislative decisions about operation that happen at a higher level. (Example: Where did the limit on Abiquiu come from?)

## **Values**

The first question is what is it we are optimizing? All kinds of values are going into that.

Shared value that every person living in the region ought to have enough water for their basic human needs.

Divergent values. Our value system is based on economics. This will never take into account cultural values and the ecosystem as a whole. We need to broaden the value we place on water use. Take the Albuquerque aquifer: we're depleting it while we could conserve. We are too dependent on the San Juan-Chama water. Conservation is a piece of optimization – reservoir operations is not the only thing we should be looking at.

How do you balance economic development with the water use demands of new development?  
How do you compare what Rio Rancho needs to what Cochiti needs?

Need a long term perspective – core value choice to serve the greater good – different depending upon the perspective

Sandia National Labs needs to incorporate culture/values into its modeling. Counterpoint: it can still be used as a long range planning tool.

We need to find some rules that benefit us all in the long run. Otherwise, the tragedy of the commons will take over.

Use compassion as a management tool – inspired by Regis Pecos' talk.

## **Specific Suggestions**

Utton Center should look at the notes generated and pull out most important things to work on: implementation of some of the key issues that got raised here. Elephant Butte is one of these ideas: how to store water differently to minimize evaporation losses at Elephant Butte. Number one priority, but there are others.

Move towards more upstream storage. Flexibility in the compact is an opportunity!

So you're suggesting managing compact deliveries at Abiquiu? So the ISC would have to get a storage permit and store water for compact purposes? Which entities would be involved?

Elephant Butte Reservoir operation is horrible. Terrible location. Shallow, broad, far south, salty. What about changing its operation? Cut evaporation. Restrict surface area to the Narrows and below. This cuts surface area in half.

No doubt that optimization includes evaporative loss in Elephant Butte. Are you saying the Utton Center should focus on that or should it be broader?

Evaporation losses at Elephant Butte are the big deal. These are questions that get raised over and over again, but nobody addresses elephant under table? Utton Center could try to problem solve these kinds of issues that are never discussed. Engage everyone in these real debates.

What about underground storage?

Cisterns may become viable.

I don't want to restrict to this. We need leadership in this New Mexico, Colorado, and Texas, aimed at negotiating among the 3 states about using the flexibility within the compacts.

How would you ever accomplish this change in storage? Who would be the entity who would get those involved together to accomplish this?

Note regarding Viola Sanchez' quotation of Scurlock assertion that there was a 400 mile reach of the river that dried in 1752: Questions validity of it, but thinks it would be worthwhile to dig to the roots of that assertion, especially if it remains in the record. Is it only anecdotal? Is it in the literature? Even so, is it valid at its core? How could they determine in 1752, given travel and communication distances, that the river was dry for 400 miles from "border to border" – what are the borders?

### **Obstacles – Challenges – Constraints**

Norm touched on the fact that things are only going to get tighter and more difficult. We never look ahead more than about 20-30 years. This is not sufficient. We're shifting our use and fooling ourselves. We need a real solution. Nobody is looking ahead. What about the time when no suggestions that are on the table have a chance of working? What about the possibility of a multi-decade drought? How do we force a proactive view? The Utton Center should change the scope of this discussion. Change the discussion to real sustainability.

Optimizing reservoir management is just a tool, it doesn't establish the ends. I credit the Utton Center for setting this discussion up, but I think there's something else that needs to be done that

didn't come out today. "What really hard questions need to be answered if New Mexico as a state is to decide to change the management of the reservoirs in order to optimize for some particular set of aims?" Nothing was said about the problems we'd face if we were to try to raise the capacity of Abiquiu to 1.5 million acre feet. (He missed Kevin's talk.)

Future impacts of storage: ESA demands flow requirements, no water available for ESA unless there is a "great snow," and ABQ and SF will be using them significantly.

Climate modeling research – snowpacks will be decreased in the future ... fast and early melt.

### **Other Water Management Suggestions**

Issue is far broader than reservoirs. Even though that's a huge piece, we need to talk about what we're optimizing for.

Thinking out of the box v. in the box: What is the box? Limit use to entitlement. Is adjudication within the box? Management of demand takes less time than adjudication. (This idea had some support.) There is a lot that can be done "within the box" especially with regard to regulating water use.

Why are domestic well users entitled to so much water? There are enclaves of protectionism. But domestic well permit usage is probably much less than the allowance of 3 AF on average.

What about a federal watershed plan program - §319 – could that be a vehicle for doing some of what we are talking about?

Impact fee legislation in ABQ in the late 1990s. Prohibited for the acquisition of water on the west side. Bad policy? Should a subdivider be required to pay for such acquisition?

There was a discussion about the feasibility of controlling demand/population growth through impact fees, limitations on building permits, etc. Referred to WRII conference presentation on what was driving growth in NM, which is primarily natural increase. Net in- / out- migration is relatively small, having peaked in 70s and 80s.

Water Rights Acquisition Process: Need reform of market exchanges. Right now, there's a lot of friction and legal expense in transfer of water rights. The more friction, the less efficient the process of transferring water rights. Water rights need to be quantified and adjudicated, but the system should be reformed to allow this to happen with less expense than currently is incurred. Takes a lot of paper to transfer rights. Perhaps a streamlining of processes would accomplish this task.

Some members of the group saw markets as an efficient way to adjust the system via re-allocation water from one use to another. Others felt there is a need for adjudication. In the opinion of some, inefficient markets are really OK because they offer protection from the "water running uphill to money" syndrome.

Friction in the system of water rights transfers serves a purpose of preventing overly simple changes of important rights. The resistance to change is built into the system and is important.

Whereas the water rights in Colorado were adjudicated early last century, we currently have a situation where there are so many pressures that it is difficult to ensure that such things happen.

We're dancing around conservation, let's talk about it. No matter who does it, we need to talk about the demand. The supply is one thing, but what about growth and looking at problems with demand? We need to conserve and reduce demand in urban areas. Also rural conservation. Agriculture needs to be looked at.

What about an incentive program? Pollution credit trading has been a notable success in policy. It has reduced pollution.

Currently NM does not allow people who conserve water to market or otherwise reallocate it for specific purposes.

Regional water process looked at the demand. Real issue is: how can we know that we're overusing our resource and still build houses on the west side of Albuquerque? Lack of understanding and political will. Although we've looked at the supply and demand, we're still chugging along.

One of the reasons we use markets is so that we can shift water among different interests instead of coming up with concepts of public welfare as a whole. Difficult to get people to talk about common values and public welfare in a certain region. Problem: pits people against one another. But it was at least successful enough to produce regional water plans.

Regional water plans have produced some progress.

Allow the public to actively choose water use options. Incentivize. Must be some way of rewarding for choice of use. Need incentives to support conservation.

Conservation is part of optimization. You're not going to make more water.

### **Utton Center**

Utton Center is logical to lead a collaboration on this. The fact that they're holding this session is a reason in itself. They have stable funding. Is Utton the consensus? Utton Center is a small group – how effective can they be? They want to be successful. Maybe there's room to expand if they take this on.

Does anyone know of any other statewide organization that would be more appropriate? NM Water Dialogue is also a good neutral organization.

Utton is perfect because this is a legal issue.

What are they leading? I can't agree until I know what they're leading.

Consensus in this room is that Utton would be a candidate for good leadership on this issue.

Maybe Utton Center should have general topical conference once a year and address one of these issues in a follow up. The conference can be directed at raising these kinds of things for the Utton Center to work on. Is this intended to be an annual event? Not necessarily.