



# Water Supply Management Program 2040

## Agenda

### WSMP 2040

### Community Liaison Committee Meeting #5

Tuesday, March 11, 2008

6:00-9:00 PM

1. **Welcome and Introductions**
2. **WSMP 2040 Progress**
3. **Updates** **30 min**
  - a. Water Transfers
  - b. Final Demand Projection
  - c. Need for Water ResultsQ&A
4. **Component Screening & Evaluation:**
  - a. Supplemental Supply – Q&A 20 min
  - b. Recycled & Raw Water – Q&A 20 min
  - c. Conservation – Q&A 20 min
5. **Other Comments or Questions**
6. **Public Comment**
7. **Next Meeting Dates**

Scheduled Meetings:  
June 2, 2008 (reschedule to May 19 or 20?)  
September 9, 2008

Proposed Meeting to be added:  
April 2008 (to be discussed)



### Community Liaison Committee Meeting #5

March 11, 2008 6:00 - 9:00 pm

EBMUD Administration Building

375 Eleventh Street, Oakland

Large Training Room

#### Attendees

Charles Brydon, Stuart Flashman, Henry Gardner, Charles Gilcrest, Kris Hunt, Bruce Kern, Howard Kerr, Eleanor Loynd

#### Not Present

Barbara Becnel, Merlin Edwards, Walt Gill, John Gioia, Bob Glover, Betty Graham, Michael Haneman, Laura Harnish, Julia Liou, David Nesmith, Tomi Van de Brooke

#### EBMUD Attendees

An Bartlett, Greg Chan, Alex Coate, Tom Francis, Richard Harris, John Hurlburt, Cherie Sakurai, Joe Tam, Mike Tognolini

#### Project Team Attendees

David Blau, Kara Demsey, Dave Richardson, Lois Humphreys, Karen Johnson, Yanna McLaughlin, Marcia Tobin

### 1. Welcome and Introductions

Lois Humphreys, TRG & Associates public outreach consultant and lead facilitator, welcomed the CLC members and facilitated the introduction of all participants.

### 2. WSMP 2040 Progress

Consultant Team Project Leader, David Blau of EDAW, handed out a water conversion factor summary card made by DWR, provided an overview of the meeting's agenda and an update on the WSMP 2040 progress and schedule. He also provided a summary of the Board Workshop #6 topics and what is coming up on the next Board Workshop agendas (Workshops 7 through 9).

### 3. Updates

#### a. Water Transfers

EBMUD Water Supply Improvements Division (WSID) Manager Mike Tognolini presented findings of northern California water transfer opportunities. Freeport facilities could be used to facilitate such a transfer. Three potential water transfer partners were described: Glenn Colusa Irrigation District (GCID), Yuba County Water Agency (YCWA), and entities in Plumas County.

- GCID has a water right three times that of EBMUD and these rights are generally used during the irrigation season.



- YCWA has recently signed the Yuba River Accord to balance fishery releases, water transfers, and conjunctive use activities. Since YCWA has agreed to make the transfer water available to the state, transfers from YCWA are a secondary option for EBMUD.
- Plumas County has a number of interesting alternatives. There may be opportunities for use of under-utilized surface water reservoirs and irrigated pastures (agriculture-urban water transfers). There is potential to restore Sierra alpine meadows by recharging them with surplus run-off. The potential yield from alpine meadow restoration is unknown, and EBMUD would have to make an arrangement to move the water through Lake Oroville.

The next steps for pursuing water transfer opportunities include engineering analysis, and gauging community interest.

## **b. Final Demand Projection**

David Blau summarized the final demand projection results. The demand projection for 2040 is 274 million gallons per day (MGD), after subtracting existing recycled water programs to which EBMUD is currently committed (9.3 MGD) and existing conservation programs (22.5 MGD). The land-use based method used to project the 2040 demand was briefly summarized and reviewed. Some of the future land use trends that have been identified by the planning departments such as densification and re-use of industrial land uses for commercial land uses were also summarized.

## **c. Need for Water Results**

David Blau presented the 2040 demand number that includes ongoing conservation and recycling (274 MGD +22.5 MGD + 9.3 MGD = 306 MGD). The Need for Water under 25%, 15%, 10%, and 0% rationing was presented as an average annual need for water in MGD and as the Need for Water over 3 years in thousand acre-foot (TAF). He showed how the Need for Water increases with less rationing. The costs of rationing will be presented at the next Board Workshop and subsequent CLC meeting.

## **4. Component Screening & Evaluation**

David Blau described how the component evaluation matrices are organized and how the components are scored:

A high score (H) means that the component has a high (favorable) response to the screening criteria and the highest potential to meet the criteria, which is the desired outcome. If a component had a very low (unfavorable) response to a criterion, it was given a low (L) with a box around it. If a component had more than two low ratings (L), it was suggested to be held from further consideration.

Each screening criteria category is displayed in a particular color: Operations = blue, Economics = yellow, Public Health & Safety = orange, and Environmental = green. Within each criteria category, the color range indicates how well a component responds to the criteria. To allow for visual assessment and comparison, the darker a color is, the better the score/response.



Criteria scores have different meanings in the different component categories. For example, a high score for the “minimize carbon footprint”-criterion is not the same for the supplemental supply components as it is for the recycled and raw water components. The carbon footprint criterion was based on the component’s estimated energy use. Energy use for the supplemental supply components ranged from zero to over 10,000 KWh/MG while energy use for the recycled and raw water components ranged from approximately 1,000 to 5,600 KWh/MG. Thus, to capture this variability of energy use two different scoring distributions were developed for these component categories.

An example of how components were scored within a component category can be seen by looking at the recycled and raw water components under the “maximize implementation and phasing flexibility”-criterion. Components with multiple phases, and where the first phase has already been constructed, scored high (H). Components with multiple phases where the first phase has not yet been constructed scored high/medium (H/M). Components with no other phases, but an opportunity for future phasing scored medium (M) and projects that do not include any additional phases or obvious future phases scored medium/low (M/L).

Several components were screened out before the detailed evaluation process (e.g., Statewide projects). This was because they are un-built projects and in very early stages of development. At this stage, it is difficult to determine the yield that EBMUD will gain, and thus the cost. However, their progress will still be tracked by the District in the future, even if they are not included in the supply solutions for this plan at this time.

Portfolio themes are being developed and will be presented at the next Board Workshop on March 25, 2008. David Blau discussed some of the potential examples that may be considered, such as a portfolio with the lowest impact to the customer. Flexibility as a theme might include both upcountry and local storage components. Another portfolio theme could focus on storage, including additional upcountry storage, with both above ground and groundwater storage. A portfolio with the lowest carbon footprint may be included with rationing, no additional recycling, and enlarging Pardee Reservoir. A portfolio that looks at system reliability would look at storage east of the Delta storage as opposed to west of the Delta.

### **a. Supplemental Supply**

Supplemental supply costs range from \$700-\$2,000 per acre-foot (of dry-year yield). At the next Board of Directors’ Workshop, the unit costs for each supplemental supply component will be presented. David Blau provided some examples of the criteria and how components generally scored, highlighting what components received high scores on particular criteria. For example, it was described that under the “minimize vulnerability and risk of disruptions” criterion, components that are located in the EBMUD Service Area received high scores as opposed to components that are located east of the Delta that generally received medium/low scores. This criterion captures the benefits that local supply sources contribute to reliability during a potential future disaster in the Delta when the Mokelumne Aqueduct system may be temporarily out of service. Components that are recommended to be carried forward were identified by showing the dry year yield on the right side of the table. There are nine supplemental supply options to be considered further.



## **b. Recycled & Raw Water**

David Blau explained that a different method was used for the recycled and raw water components screening and evaluation. All 22 recycled water projects together total approximately 11 MGD. The cost of the recycled water projects range from \$400 to \$6,000 per acre-foot (of dry-year yield). Expensive recycled water projects often scored "L" on the carbon footprint criterion due to energy required for treatment and distribution. The portfolios will not identify specific recycled water projects, but rather, a recycling goal of 11 MGD, 5 MGD, or 0 MGD. This leaves EBMUD with the flexibility to explore partnerships and see which specific project works over time. Overall, many of the recycled water components scored the same because we do not know the specific layout of the facilities at this point.

The upcountry partnerships for recycled water are not at a point where they can be considered a distinct project; many also have potential legal or institutional barriers. These projects are not recommended to be bundled into portfolios at this time but will continue to be monitored for future potential by EBMUD.

## **c. Conservation**

David Blau described the relationship between increased conservation and rationing. If a portfolio includes a higher level of conservation, it may not be able to ration as much (e.g., if Conservation Level E is chosen, rationing was capped at 15%, since the potential to conserve may be at its maximum level). 53 individual conservation measures were considered that go beyond required plumbing codes. Conservation Level E is currently the maximum end of the voluntary conservation spectrum that can be accomplished without implementing mandatory measures. The potential for water savings levels off but the cost climbs steeply at Conservation Level E. The Board recommended dropping Conservation Level A (since it is less than the current conservation), and keeping Levels B through E for further exploration. Conservation Levels B, C, D, and E will be included in the portfolio building.

## **5. Other Comments or Questions**

See summary of questions and comments below.

## **6. Public Comment**

There were no public attendees.

## **7. Next CLC Meeting Dates and Location**

- The next CLC meetings are scheduled for:
  - Monday, April 7, 2008 from 6-7:30 PM (comment on costs for component screening and initial portfolio screening)
  - Monday, May 19, 2008 from 6-9 PM
  - CANCELLED - Monday, June 2, 2008 from 6-9 PM



- Tuesday, June 24, 2008 from 8:30-11AM Board Workshop. CLC members are encouraged to attend the June 24, 2008 Board Workshop (#9) to provide their input when the Board chooses the preferred portfolio.
- Tuesday, September 9, 2008 from 6-9 PM

All Meetings will be held in EBMUD's Large Training Room in Oakland. (Potentially the April 7 CLC meeting will be held in a different conference room. Please confirm with Lois Humphreys.) Dinner will be provided at all meetings. Please RSVP with Lois Humphreys under (925) 778-8803 or via email: [lois@trgandassociates.com](mailto:lois@trgandassociates.com).

### Summary of Questions & Comments during the March 11, 2008 CLC Meeting

**Q = Question**

**A = Answer**

**C = Comment**

#### Subject: WSMP 2040 Progress

Q: (Bruce Kern): Please help us understand the methodology of selecting portfolios. Will we choose one portfolio?

A: It is not likely that one portfolio as written will be selected and implemented over the next 30 years. We will probably end up with pursuing several portfolios and we are discussing this at the moment. It could be a hybrid of multiple portfolios. We will likely end up with a preferred strategy with triggers to follow successful pursuits over time.

Q: (Stuart Flashman): How many alternatives will be analyzed in the CEQA document?

A: The primary alternative portfolios will be analyzed in the CEQA document, which will likely feature 4-6 alternatives. The process and the range of portfolios will be described in the CEQA document as well.

#### Subject: Updates - Water Transfers

Q: (Bruce Kern): How would the financial mechanism work for water transfers? It is like trading in futures. What kind of cost assumptions will need to be made?

A: The District is trying to arrange for long-term or permanent water transfers that EBMUD can rely on for a decade or more. This will help the District get some certainty on cost. Short-term transfers may be considered during a severe drought. Cost estimates are based on best knowledge and past water transfer deals.

Q: (Stuart Flashman): Not sure I understand the meadow restoration as a water transfer technique. Is it like conjunctive use?

A: Snowmelt in the watershed currently goes into reservoirs like Lake Oroville (is "lost") because it is leaving the watershed too fast. A restored meadow would slow down



erosion and take the peak off the winter runoff. Some of this water may end up in the groundwater. .

Q: (Stuart Flashman): Are these water rights that aren't spoken for [for water that would be stored in a restored meadow]?

A: It is unused water right now.

*Subject: Updates - Final Demand Projection & Need for Water Results*

Q: (Henry Gardner - Slides 12): The projected future demand on the graph looks pretty dramatic/steep?

A: From 1990 to 2005, we have been increasing our level of conservation each year and keeping the demand flat. Additional conservation after 2010 has not been included in the demand projection yet (we do not want to fix the conservation level because that is part of the solution).

Q: (Henry Gardner): Slide #13 - Thinking about what the population will likely be in 2030, I cannot reconcile the amount of water that is projected to be needed.

A: Dave Richardson, RMC, described that the demand plot is equivalent to a 1%-2% relative growth rate per year.

Q: (Stuart Flashman): Does the projected demand take into account state mandated conservation?

A: No. "Natural" or District funded conservation is not included after 2010 yet.

C: (Stuart Flashman): Comment on the growth projections. The methodology used asked each planning department to eyeball what is going to happen in the future. It might be better to ask each planning department for a high, medium, and low range growth projection instead of just one guess at what is going to happen. Some projects may end up being smaller than expected (e.g., due to traffic constraints). Also, there may be community resistance to some of these new projects. Factors like traffic and community resistance may reduce growth from what the planning departments are expecting.

C: (Charles Brydon): If the population of California continues to grow, those people will have to go somewhere. We will either need to densify our existing communities or move into the open spaces. The overall growth rates that you are showing are what we would expect/hope them to be. It is easier to serve a population West of Hills than out in other climates East of Hills. Inland areas will have a harder time dealing with drought and increasing populations.



A: (Karen Johnson, Demand Study preparer): We held meetings with planning departments for accurate current land uses and got updates on project developments. There is a shifting of growth areas in the Bay Area.

C: (Stuart Flashman): There will be significant growth in Oakland, but General Plan maps are likely overestimating projections because they do not take into account limiting factors like traffic constraints. The General Plan projects lots of development along Telegraph, but traffic can't handle it. The projections may not be correct.

C: (Henry Gardner): The Bay Area is going to be forced to direct a lot of growth close in due to climate change concerns, vehicle miles travelled, etc in addition to water. The Bay Area will be forced to handle increasing need.

### Subject: Component Screening & Evaluation - Supplemental Supply

Q: (Stuart Flashman): Is the San Joaquin Groundwater Banking component rolled up into the IRCUP? Aren't they in different geographic areas?

A: IRCUP involves Mokelumne River stakeholders. This is looking at groundwater banking, not transfers.

Q: (Bruce Kern): The quality of water can be costly for end users/businesses that require a certain quality of water. Do we assume that water quality is held constant?

A: It is assumed that water quality is kept as a constant in cost.

Q: (Bruce Kern): A big question for business is also how constant is water quality [and associated cost of maintaining that water quality when using different/new supply sources]?. Every time things need to be done for Water Quality, it has effects on cost.

A: This is an important question that the team will look into further.

Q: (Stuart Flashman): The color ranges for water quality on the supplemental supply component evaluation matrix. Describe why local reservoirs were given a somewhat lower score? Local storage degrades the quality somewhat?

A: Yes. Mokelumne water gets degraded a bit by the local runoff and may require a higher degree of treatment than Mokelumne water that comes directly from the aqueducts to a local treatment plant.

Q: (Stuart Flashman): Would the water quality in local reservoirs be assumed to be the same as Upper San Leandro (USL)?

A: Similar concept of having the impact of local runoff. It would be more like Briones Reservoir.



Q: (Bruce Kern): Can you describe a bit more about the dry year yield? It seems like a dominant factor, along with cost and feasibility.

A: As we assemble portfolios, we will look for a set of components that meet the Need for Water. We will mix and match components to meet the 2040 need and then test those.

C: (Henry Gardner): Is your chart copyrighted? [Answer: No] Good. I could use it for another purpose. Fabulous. Great way of conveying the information.

Q: (Stuart Flashman): A couple of the supplemental supply components look marginal for inclusion. C&H Desalination and Sacramento groundwater banking (low storage).

A: We want to take these into the modeling and see how they perform.

Q: (Stuart Flashman): How much potential yield does the Sacramento regional groundwater project have?

A: Sacramento regional groundwater project has a lot of potential. It really is a conjunctive use project with SCWA and it looks a lot like the IRCUP project. The source of water for that project may be recycled, raw, or a combination. We have estimated a 4.2 MGD yield. They have a banking formula and we were relatively conservative. The yield could be bigger, but this is the project we defined for initial modeling.

### Subject: Component Screening & Evaluation - Recycled & Raw Water

Q: (Bruce Kern): The driver is the industrial partner who may need to integrate recycling into their operations.

A: Recycled water can provide consistent water quality.

Q: (Stuart Flashman): Would it be worth looking at one upcountry recycled water project as a "pilot project"?

A: The upcountry recycled water projects do not provide long-term reliability. EBMUD, over time, would eventually lose that water. It would be good for 10-15 years, but none of the upcountry agencies would want to give up their water rights long-term.

### Subject: Component Screening & Evaluation - Conservation

Q: (Stuart Flashman): Level B of conservation says 'new development requirements' aren't they mandatory?

A: EBMUD adopted its own water efficiency regulations. They mirror the plumbing codes, but they also go a bit further than that.

Q: (Stuart Flashman): What is the ability to extend that further?



A: As you move to Levels C, D, and E, ....

Q: (Stuart Flashman): Do new development measures include re-developments?

A: EBMUD's regulations only include new meters. Other plumbing codes or planning agencies can bring them up to a higher standard though. We are trying to entice added measures.

C: (Stuart Flashman): Local agencies can also have a trigger if you do an add-on to an existing house that exceeds a certain level, certain requirements apply.

C: (Bruce Kern): So much of our conservation services are put forward onto new developments. I hope that portfolios would engage both sides, both new developments and existing developments. We need to be concerned about putting a disproportionate share of the burden on new developments. Utilities and services for new houses can be huge. Currently they are about \$274,000 per new home!

Q: (Howard Kerr): What plumbing code changes are going to give us that much reduction?

A: The bulk of it is with existing customers. High efficiency toilets, landscape standards, many conservation measures are already in place. Replacement with efficient products. Some measures are more cost-effective when planned into the system/development upfront.

Q: (Henry Gardner): Several references have been made as to how expensive conservation is. How much would the cost be per customer?

A: That is the next step to determine. This will be coming up in future workshops. The results from modeling the portfolios will help determine the associated rate impact of each of the portfolios.

Subject: Other comments:

Q: (Stuart Flashman): Question regarding surface storage impacts. Does the carbon footprint scoring take into account the loss of vegetation?

A: It was looked at, but was the contribution of decaying organic material submerged by an expanded or new reservoir to greenhouse gas (GHG) emissions was determined to be negligible over time as compared to treatment and pumping energy use associated with these projects.

C: (Charles Brydon): In terms of component reliability, remember that we are sitting on top of the San Andreas Fault.



## Water Supply Management Program 2040

**Meeting Minutes** Community Liaison Committee Meeting March 11, 2008

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Q: (Stuart Flashman): Is the conservation mostly indoor or outdoor?

A: We do not have a ratio on that, but it includes both indoor and outdoor conservation measures as well as supply-side. Probably the bulk of it will be outdoor landscaping. We are looking at water loss control programs.

C: (Stuart Flashman): Can you send us the NOP and let us know about the scoping for the EIR?

A: Yes.