

Summary of Key Points from the CALFED Bay-Delta Program Analytical Tools Work Sessions

Water Management (June 18)

General Comments

- Address how the monthly analysis using available tools and data could mislead or misrepresent conclusions; this may take the form of risk analysis or certainty analysis.
- Conduct detailed modeling to look at source and transport of water and the source contributions.
- Try to integrate social and economic considerations into the allocation rules.
- Use 2 types of tools: a traditional detailed water management tool and a tool to look at opportunities to shift allocations.
- Use sensitivity analysis to verify the assumptions of the model(s). Look also at institutional risks and sensitivity. CALFED needs to get consensus from the experts on assumptions.
- Use “two tracks” for the model development: one for the short-term goal of having tool(s) in place to help refine the components, a second for model improvements to conduct meaningful detailed analysis.

Assessment Variables

- QWEST is too specific. Look at “channel flows at key locations”
- Add export TDS and San Joaquin Flow at Vernalis

Modeling Tools

- Adapt the existing modeling tools to address the potential changes in the configuration of the Delta system per proposed CALFED structures and the effects of those changes on relative source contributions.
- Connect the economic tradeoffs with the water modeling allocations.

- Be explicit in what regulations/institutions are assumed as baseline and baseline future conditions.
- Consider changes in upstream environments over time.

Unresolved issues

- SWRCB and DWR are working on integrating existing models. How will CALFED reflect the detailed work being conducted by SWRCB?
- How can we measure a market approach in a specific model?
- Can we revise demand-driven models to look at opportunities for all sectors by treating all uses (including environmental) as demand?

Attendees

Grace Chan - MWDSC
 Ben Everett - CH2M HILL
 Judith Garland - EBMUD
 Tracy Clay - EBMUD
 Dean Ruiz - Montgomery Watson
 Kylea White - Montgomery Watson
 Pete Rhoads - MWDSC
 Ted Roefs - USBR
 Ray Hoagland - DWR Planning
 Lenore Thomas - USBR Planning
 Naser Bateni - DWR Planning
 Byron Buck - CUWA
 Terri Anderson - SCVWD
 Lester Snow - CALFED
 Wendy Halverson Martin - CALFED
 Aimee Dour - CALFED Consultant
 Jordan Lang - CALFED Consultant

Sushil Arora - DWR Planning
 Jim Spence - DWR, SWP
 Terry Eriewine - State Water Contractors
 Paul Wisheropp - CALFED Consultant
 Erwin Van Niewenhuysen - CALFED Consultant
 Cindy Darling - USBR
 David Fullerton - CALFED Consultant
 Richard Denton - CCWD
 Francis Chung - DWR
 Steve Yeager - CALFED
 Rick Breitenbach - CALFED
 Russ Brown - CALFED Consultant

Water Quality (June 18 and 19)

General Comments

- Avoid the use of simplistic models to represent complex hydrologic phenomena.
- Look at an appropriate time scale: water year and season greatly affect water quality conditions.
- Take the time to do a careful and detailed analysis of this complex system. CALFED will need to convince everyone that the work is sound and the results are useful.
- Incorporate south of delta changes (e.g., new storage) and look at how that would change the mix of water to other delivery areas (e.g., South bay aqueduct).

Assessment Variables

- Address toxins; the current models and methods emphasize flows and Cl.
- Look at BDAC document for the important variables: Na/Br, SS, EC, TDS (EC and TDS should be called out individually), and DO (DO is primarily a concern for the lower Stanislaus and Stockton ship channel but may need more analysis under an isolated facility alternative).

Modeling Tools

- To address water quality concerns, CALFED needs to use recognized and accepted models for alternatives analysis in order for the results to be credible.
- Specifically identify one action and evaluate that action over a range of hydrologic conditions to determine the effect of the action as a function of hydrology.
- Do a long-term probability assessment under a given action or alternative.
- Look at the daily distribution and changes in water quality as a result of an action or alternative. Show changes as a function of tidal stages and export operations, as appropriate.
- Use modeling to refine and select components and to evaluate the alternatives. The next step for CALFED is to put the existing models together to meet our needs for CALFED.

Unresolved Issues

- How can CALFED incorporate and evaluate toxins in the system?
- How will model results be verified where the alternatives being modeled would radically change Delta hydrology?
- What will CALFED use for the future baseline conditions?

Attendees

Grace Chan - MWDSC
Alex Hildebrand - SDWA
Rick Breitenbach - CALFED
Rick Woodard - DWR
Henry Wong - USBR
Jack Rowell - USBR
Paul Hutton - DWR
Richard Denton - CCWD
Francis Chung - DWR
Ted Roefs - USBR
Ben Everett - CH2M Hill
John Gaston - CH2M Hill
Erwin Van Niewenhuyse - CALFED
Consultant

Bob Berger - EBMUD
Judith Garland - EBMUD
Jeff Lafer - CALFED Consultant
Greg Gartrell - CCWD
Elizabeth Howard - USBR
Jim Arthur - USBR
Amy Fowler - SCVWD
Les Grober - CRWQCB
Aimee Dour - CALFED Consultant
Jordan Lang - CALFED Consultant
Russ Brown - CALFED Consultant
Peter Sandish-Lee - Woodward Clyde

Economics - Agricultural Economics (June 20)

General Comments

- Economic relationships will change based on other changes.
- Take into account short-term vs long-term profit maximization.
- Include uncertainty and risk in the models/analyses. Conduct a sensitivity analysis and use intervals, not point estimates, where appropriate.
- Develop and review case studies to support the modeling work, if feasible.
- Use the tools to refine components (i.e., feedback loop for the demand management/water use efficiency actions).
- Iterate the economics model with the groundwater and hydrologic models to look at the overall relationships and the effects of potential actions (consider groundwater externalities).
- Look outside the CVPIA area to address impacts on SWP delivery areas.
- Growth Inducement: need an assessment of demographics and regional economies.

Assessment Variables

- Add a “social” impact assessment to address income and community concerns.
- Look at the effects of recovering CALFED infrastructure costs on regional economies.

Modeling Tools

- Estimate reliability of water supply; not just the amount of water delivered. (Perhaps CALFED could develop monthly economic estimates, not just annual.)
- Assumptions and the potential drawbacks of the model need to be explicitly disclosed.
- Incorporate urban water management plans and IRP studies into the M&I analysis.

Unresolved Issues

- What is the “No Action”?
- How can we take into account the changes in markets over time?

- Can we measure the ability of local economies to support themselves or their ability to adjust to change?

Attendees

Craig Stroh - Reclamation
Aimee Dour - CALFED Consultant
Russ Brown - CALFED Consultant
Fred Farlong - Bay Area Economic Forum
Rick Breitenbach - CALFED
Adrian Griffin - SWRCB
Roger Mann - CALFED Consultant
Ray Hoagland - DWR Planning
Wendy Illingworth - Foster Associates
Richard Howitt - University of California,
Davis

Zach McReynolds - CALFED
Gregg Roy - CALFED Consultant
Jordan Lang - CALFED Consultant
Don Wagenet - CALFED Consultant
Palma Rislser - EPA
David Fullerton - CALFED Consultant
Wendy Halverson Martin - CALFED
Steve Hatchett - CALFED Consultant

Fish Species: Delta Resident Fish - Chinook Salmon (June 21)

General Comments

- Use best available information/data/relationships/models.
- Use balanced approach using narrative, indices, and models.
- Use strong relationships that are well known.
- Do not link relationships to develop indices/models unless the links are well known.
- Goal is not number of fish. Ecosystem integrity is important. Goal of program is to improve natural ecosystem functions and integrity.
- Sensitivity analysis is desirable, and explain rationale for all analyses/assumptions.

Assessment Variables

- Modular and flexible approach is needed. May need daily analyses for flow fluctuations on a particular river. Average monthly flows may be appropriate for other affects. Need to assess specific CALFED components.
- Focus on broad ecological functions.

Modeling Tools

- Do not rely heavily on indices or population models. Do not combine/lump, or multiply indices.
- Need to establish more tools to evaluate habitat restoration actions, design restoration component, and differentiate between alternatives.

Unresolved Issues

- How will modeling outputs be characterized? There is great difficulty in comparing and understanding different types of output.

Attendees

Wendy Halverson Martin - CALFED
Alice Low - CH2M Hill
Tom Taylor - Trihey & Associates
Jim Buell - MWD Consultant
Rick Breitenbach - CALFED
Bruce Herbold - EPA
Phil Dunn - CALFED Consultant
Russ Brown - CALFED Consultant
Jordan Lang - CALFED Consultant
Tom Cannon - CALFED Consultant
Warren Shaul - CALFED Consultant
Frank Wernette - DFG
Pete Chadwick - DFG
Ken Lentz - USBR
Randy Bailey - MWD Consultant
Leo Winternitz - DWR

Liz Howard - USBR
Dick Daniel - CALFED
Phil Unger - Entrix
Steve Ford - DWR
Terry Mills - DFG
Jim White - DFG
Jordan Lang - CALFED Consultant
Rick Soehren - CALFED

Fish Species: Riverine Fish - Striped Bass (June 21)

General Comments

- Look at changing relationships based on science and sound judgment, but do not throw out historic data.
- Federal/state agencies should be involved in helping CALFED team in developing tools/methods/relationships. A few selected individuals will provide input and keep group small so it can still work effectively.
- See “Summary of Key Points” for chinook salmon. All of these issues that were generic to the general CALFED approach were agreed to by the striped bass group, in general. There were no contradictions between the two groups in terms of approach.

Unresolved Issues

- How will the new facilities be modeled? Many of these facilities may fundamentally change the existing system so that historic relationships may not be valid.

Attendees

Wendy Halverson Martin - CALFED
Alice Low - CH2M Hill
Tom Taylor - Trihey & Associates
Jim Buell - MWD Consultant
Rick Breitenbach - CALFED
Phil Dunn - CALFED Consultant
Russ Brown - CALFED Consultant
Jordan Lang - CALFED Consultant
Tom Cannon - CALFED Consultant
Warren Shaul - CALFED Consultant

Frank Wernette - DFG
Dick Daniel - CALFED
Peter Baker - EA Engineering
Jack Rowell - USBR
Ted Sommer - DWR
Chris Mobley - NMFS
Jim White - DFG
Larry Puckett - DFG, USFWS
Bill Snyder - DFG