

CALFED WORKSHOP 6
APRIL 15, 1996
AFTERNOON BREAKOUT SESSION (BLUE)

Facilitator: Scott McCreary
CalFed Rep: Rick Brightenbach
Resource: Ron Ott
Recorder: Roy McDonald
Notetaker: Cathy Patton

I. QUESTIONS AND ANSWERS ABOUT PROCESS AND ALTERNATIVES:

Margit Arumburu (Delta Protection Commission) - Define modest moderate and extensive

Polly Smith (LWYC/SSFBA) - For habitat restoration need flow at right place and time; what is the linkage, how does the program manage it?

How is adaptive management going to be institutionalized over the long-term?

Each alternative has 100K acre feet purchase element, how is it going to be done; clarify the intent. Is it in addition to existing flows?

What happens if the spring run is listed or other species?

Selection process: Who will decide on the 3 to 5 alternatives and who will decide on the preferred alternatives?

What is criteria that will be used for the selection process?

Has it been determined that the core elements satisfy the solution principles?

Concern for description of restoration of habitat seems to be undefined, however, the fix of the habitat has huge bearing on water supply therefore some definition of fix is needed to define water supply needs.

Written comment submitted by Jay Lund (UC Davis): How can you compare alternative that have such complexity, subtlety and interaction without a standard analytical modeling framework? The conceptual framework used so far is useful, but not really satisfying for comparing alternatives or refining details.

Discussion/Answers:

Dick Daniel: Basic concepts Alt. F, comprehensive, dams to Delta to bay, looks at all identifiable habitat and limiting factors. Actual numbers of acres not refined intent to restore balance needs

with ecological functions. Water supply conflict results from ESA and desire to _____. Reduce length and frequency of interruptions due to ESA requirements. Produce habitat to eliminate limiting factors for winter run salmon. Take limits based on percentage of population. Alt. F will increase number of run, and will increase habitat to make juveniles less vulnerable to direct loss at pumps and indirect loss due to straying and predation.

Question: Will Category 3 be implemented? Answer: Relies on part on early part from funding from Cat 3. CVPIA environmental fixes will cost 100 M and majority is in place, albeit in question.

Rick Brightenbach: The 3 to 5 alternatives will be decided based on public and agency input. 10 will be evaluated in workshops, refined based on solution principles and present to cal fed and BDAC. Refine further then CalFed principles will decide. Preferred alternatives will probably surface in process.

Criteria: will come from analysis of the environmental documents. Maybe answer will be obvious, maybe it wont. **Lester Snow:** Criteria will include solution principles, and objectives.

Margit Arumburu (DPC) - What will Delta smelt impact be for habitat restoration? **Dick Daniel -** Strategy to provide replacement Habitat throughout Delta system. Full range of salinity habitat will be covered (suisun to Sacramento to vernallis on San Joaquin). Entrainment is a problem also, especially in So. Delta. Difficult species to work with due to short life span but is adaptable to differing conditions.

Dick Daniel - 100K AF could be important to Delta smelt with through Delta alternative. Not a magic number but average 1 week export curtailment expected in a critical period. Could be used to agument flow in San Joaquin, or to provide attraction flow for adults.

Ron Ott- To be a core element has to meet criteria which approximate solution principles. Not exact but are close. Question: What if the devil fish is listed, how does it affect alternatives and Alt F spring run? **Lester Snow -** Diversion modification, some flow, and habitat restoration would help spring run. What happens if something else gets listed. The longer we wait to get started the worse off we could be. Shouldn't alternatives have a spring run element to specifically address spring run issues. **Lester Snow -** Some look to Cat 3 to provide funding.

Definition: **Ron Ott-** levels of implementation, not evaluation (i.e. levels of acreage).

Flows and Fisheries management: **Ron Ott-** Most of habitat has flow as an integral part, timing of water pulse flows is being evaluated in operation decisions being made now. Polly Smith, question more on timing. **Ron Ott-** Until real detail modeling is complete it is difficult to answer. Certainly something CalFed is considering.

Rick Brightenbach- Adaptive management begins right away, part of the alternatives as stages are implemented if not going forward as planned changes will be made. Monitoring program will

have to be in place.

II. PARTICIPANT COMMENTS ON ALTERNATIVES

Strengths and Weaknesses of Reoperation Alternatives

Alternative A

Strengths:

Margit Arumburu (DPC) - Implementation is spread statewide

Polly Smith (LWYC/SSFBA)- Demand side should be strong in each

Nat Bingham (Pacific Coast Federation of Fishermans Associations) - Only secure reliable approach to helping the fish. This is a tried approach for protecting fish worked in past will work in future.

Written comment from Jay Lund: Demand management and water transfers will be an important part of any solution.

Weaknesses:

Steve Shaver (Dept of Water Resources) - Other demand management elements were not identified

Byron Buck (CVWA) - Amount of recycling not realistic. Limitation due to salinity constraints.

Polly Smith (LWYC/SSFBA) - Politically unlikely that land can be retired as needed
Voluntary reliance on retirement is questionable, is it feasible?

Shuram Ahi (DWR) - Relationship between in Delta storage and rest of the alternative not well integrated.

Lynn O'Leary (USACE) - Uses existing levees as conveyance so system vulnerability needs to be addressed in more detail. appropriate levels

Land retirement, farm community thinks is offensive. Why isolated to agriculture lands not urban as well for management and mitigation?

Drainage control by land retirement may not be as important as reducing deeper root crops.
No apparent linkage between the number of acres to be retired and the actual water usage reduction.

Stuart Pyle (KCWA) - Internal Delta issues and water supply are not addressed. Fails solution principles. 800 acre retirement will have significant redirected impacts.

Frank Wernette (DFG)- Violated durability and equitability objectives

Art Godwin (Turlock IG/SJ Tribs Assoc.) - Assumes retirement on a drought year. Cumulative effect is 3 million acres. Basin already over committed; 100,000 unrealistic; will be hard to sustain cumulative impacts on agriculture land.

Division of state and local responsibilities will be difficult in terms of implementation.

Written comment from Jay Lund: Difficult to implement because it requires so much of the very many local water users.

Alternative F

Strengths

Cindy Darling (Clubfed)- Reduces flood control conflict.

Nat Bingham (PCFFA) - Provides good habitat for other species than fish.

Polly Smith (LWYCA/SSFBA)- Large scale restoration of habitat benefit water quality and supply in long run. Builds effectively on CVPIA. A lot of source reduction is benefit to quality and supply.

Lora Steere (EBMUD) - Ecosystem restoration is fundamental.

Demand reduction numbers are reasonable and implementable.

Polly Smith (LWYCA/SSFBA)- Good conjunctive use water banking element.

Lora Steere (EBMUD) - Includes water transfer element.

Written comment from Jay Lund: Additional and extensive habitat and intake screening appears to be an essential component, even if it is somewhat experimental.

Weaknesses

Byron Buck (CVWA)- In Delta storage will not meet water quality objectives for drinking water; fishery benefits of storage are limited.

Lynn O'Leary (USACE) - Vulnerability measures are inadequate.

Lora Steere (EBMUD) - Potential weakness EBMUD concerned that FERC principles of agreement will not be adhered to re fishery resources. FERC principles of agreement must be incorporated or harmonized with the CalFed Solution.

Nat Bingham (PCFFA) - Protection of fish is through increasing their number and habitat but provides no protection from entrainment. Real basic flaw.

Jim Spence (DWR) - Could be 50 years before the results are observed. Long time frame makes implementation uncertainty.

Sina Darabzand (DWR) - Little to offer regarding water supply benefits. Speculation on recovery of species. 3 to 400 TAF seems speculative.

Margit Arumburu (DPC) - Habitat management is largely fisheries, other programs should include species other than fish include multiple management for other habitat.

Written Comment from Jay Lund: Doubtful if it would satisfy urban water user water quality.

Alternative D

Strengths

Byron Buck (CVWA) - New screened diversions, strong source control, and drought water bank.

Ecosystem restoration is essential

Art Godwin (Turlock IG/SJ Tribs. Assoc.) - New storage facilities

Larry Turnquist (Redfern Ranches)- Reduces impact of pumps on Delta

Polly Smith (LWYCA/SSFBA) - Widens the channels to reduce flow, more meandering and habitat are a plus.

Nat Bingham (PCFFA) - Positive for fish out migration, and water quality.

Polly Smith (LWYCA/SSFBA) - Land retirement good if it works. Rainbow report specific and useful in this process.

Written comment from Jay Lund: Better than current conditions.

Weaknesses

Margit Arumburu and Lynn O'Leary - Too light on system vulnerability. Need additional levee work.

____ **Jones** - Marginal water quality, violates principle of taking water from nearest and best source.

Art Godwin (Turlock IG/SJ Tribs. Assoc.) - New storage facilities are too far off no assurance will be built. Too speculative.

Polly Smith (LWYCA/SSFBA) - Levee restoration needs to address subsidence as well as other.

David Forkel (Delta Wetlands) - Opportunity for Delta storage not taken. Needs to better define marginally productive land.

Not enough wetlands restoration.

Pete Chadwick (DFG) - Year round will still result in large scale entrainment of fish. Very difficult to get SJ salmon out of the system.

Organic releases from levees will increase carcinogenic hydrocarbons.

Steve _____ - 300-400 TA will be retired. What if not enough sellers come forward?

Sina Darabzand (DWR) - Lack of conveyance facility does not take full advantage of south storage.

Missing in-Delta storage component.

Will SJ river flow in reverse? If so, it is a weakness.

The lack of through Delta improvements undermines the strength of Delta storage elements.

Written comment from Jay Lund: Urban water quality source water problems would probably remain. Lack of in-Delta drainage quality control. Long-term vulnerability for water quality (subsidence, sea level rising etc.).

Strengths and Weaknesses of Reoperation and New Facilities Alternatives

Alternative C

Strengths:

Byron Buck (CVWA) - Potential for significant drinking water improvement, real time monitoring, source control, new screened diversion, channel improvement, pump capacity improvement, Old river fix.

Sina Darabzand (DWR) - Acknowledges necessity of combining conveyance and storage facilities.

Polly Smith (LWYCA/SSFBA) - Conundrum. Could be beneficial but hard to tell if it is too much.

Jay Lund (UC Davis) - Opportunity to change water quality for different users south of the Delta depending upon their need. Need to evaluate with modeling.

Nat Bingham (PCFFA) - Would be good for fish if screens work, operational flexibility
Accrue benefits to upstream tributaries and water users

Lora Steere (BMUD) - Opportunity to help urban agencies re-operate some of their facilities

Written comments from Jay Lund: Diversity of mix. Could protect urban water quality.
Limited canal capacity. Potential for water quality operations south of Delta.

Weaknesses

Lora Steere (EBMUD) - Drinking water quality potential weakness, CalFed needs anti degradation policy with respect to water in the system. (Generic application to all alternatives).

Jason Pelitier (CVPWA) - Violates Solution Principle of reducing conflict.....

Stuart Pyle (KCWA) - Size of facility should be open through evaluation of technical analysis, economics etc.

Cindy Darling (Clubfed) - Upstream and down stream storage and conveyance system could make guarantees harder to deal with. May be too much. Is there and institutional guarantee. Others say it would make it easier.

Nat Bingham (PCFFA) - Too many water facilities; may not perform as intended.

Larry Turnquist (Redfern Ranches) . 5 CFS capacity cant fill storage if it is the only facility. Discussion..... can still take flow from the Delta.

Anti-degradation policy missing from all Alternatives.

Written comments provided by Jay Lund: Should size isolated conveyance right of way to allow expansion to peripheral canal capacity (15,000 cfs). it would be prohibitive to expand otherwise. Modeling studies are needed to determine the facilities for south of Delta conveyance for water quality.

Alternative E

Strengths

Lora Steere (EBMUD) - Multiple benefits, flood control, levee setbacks that will be engineered to modern engineering standards, habitat for aquatic species, capacity at lower velocity, general terrestrial and aquatic habitat.

Margit Aramburu (DPC) - Habitat restoration outside of the line of existing levees; less agriculture conflict.

Best for recreational boating in the Delta

Lora Steere (EBMUD) - Source control, increasing conjunctive use, demand management, water banking.

Byron Buck (CVWA) - Set back levees, question feasibility due to soil stability.

Cindy Darling (Clubfed) - Is there south of Delta storage other than conjunctive use. No should come off of the map.

Polly Smith (LWYCA/SSFBA) - Multiple benefits good, but may need additional elements such as south of Delta storage.

Written comments from Jay Lund: A thoughtful mix of different habitat types at a variety of locations.

Weaknesses

Stuart Pyle (KCWA) - Does not sufficiently address water supply needs or water quality.

Lynn O'Leary (USACE) - Relies heavily on existing levee system, needs to improve stabilization.

Potential release of carcinogens with levee changes

Sina Darabzand (DWR) - Unscreened diversion on Sacramento River.

Larry Turnquist (Redfern Ranches) - Conjunctive use, not consistent time frame. Seasonal inconsistent. Flows in Delta available to pump to groundwater storage is at same time to avoid pumping because of fish protection.

Pete Chadwick (DFG) - Provides shaky benefits to Sacramento salmon. Assumption of protection is questionable. Difficult to predict San Joaquin salmon protection with this system.

Feasibility of setback on levees is questionable due to soil stability.

Written comments from Jay Lund: Doesn't do much for water quality (especially urban) and might not help exporters.

Alternative G

Strengths

Jay Lund (UC Davis) - Flexible water quality operations.

Written comments from Jay Lund: Allows for very flexible operations for water quality and quantity. EBMUD might do the So. Folsom canal part of this anyway.

Weaknesses

Pete Chadwick (DFG) - Promises too much for size of the diversion.

Stuart Pyle (KCWA) - Significant negative environmental impacts. Costs would be overwhelming, benefits doubtful.

Nat Bingham (PCFFA) - Will confuse adult migrating salmon due to water mixture and release points. Will attract migrating salmon to the wrong river.

Art Godwin (Turlock IG/SJ Tribs. Assoc.) - Difficult to implement compared to others

Larry Turnquist (Redfern Ranches) - This Alternative will create a new endangered species - the California farmer. Burden is on the farmer.

Jay Lund (UC Davis)- Land retirement not a good strategy to improve water quality. Will not be cost effective.

Written comments from Jay Lund: Potentially expensive. difficult to arrive at operating

agreements.

Alternative B

Strengths

Polly Smith (LWYC/SSFBA) - Aggressive source control

Jay Lund (UC Davis) - Recognizes importance of additional storage (i.e. groundwater storage).

Lora Steere (EBMUD) - Increased storage increases operational flexibility and management. Net benefits to fisheries adapt time and flow, benefits to improving existing water supplies, capture high flows and store for later use.

Larry Turnquist (Redfern Ranches) - Pollutant control good but too weak on urban control).

Written comments from Jay Lund: Storage will be important, but will probably be mostly groundwater/conjunctive use and off-stream storage.

Weaknesses:

Jay Lund (UC Davis) - Likely to be very expensive.

Stuart Pyle (KCWA) - Does not recognize water supply or quality management needs

Pete Chadwick (DFG) - Year round diversion will increase and cause entrainment at so Delta diversion. Only fish protection is through more water outflow, too dependent upon institutional guarantees.

Relies heavily on existing levees. System vulnerability elements need to be strengthened.

Written comments from Jay Lund: Probably too expensive. Does little for water quality.

Strengths and Weaknesses of New Facilities Alternatives:

Alternative H

Strengths

Cindy Darling (Clubfed) - Multiple points of diversion

Polly Smith (LWYCA/SSFBA) - Very creative could be great if it works. Needs more assurance that it would work. Important to look into this, engineering studies. Multiple use of the water is appealing. Would have political appeal.

Water quality benefits.

Multiple use orientation is appealing.

Richard Harter (Retired Farmer/Writer) - Has potential strength in fishery habitat restoration.

Nat Bingham (PCFFA) - Variation - seasonal operation of them alternate storage and shallow habitat. Operate as marshlands on experimental basis.

Aquaculture promoted.

Written comments from Jay Lund: Imaginative.

Weaknesses

Marvin Jung (M. Jung and Assoc.) - Drinking water quality improvement subject to removing or sealing peat soils and it is not feasible to remove or seal it.

Margit Aramburu (DPC)- Takes a lot of agricultural land and turns it into water conveyance facilities. Loose habitat value in the process.

Cindy Darling (Clubfed) - Engineering feasibility is questionable

Written comments from Jay Lund: This seems like it could be an expensive operational nightmare.

Alternative I

Strengths

Jay Lund (UC Davis) - Access to groundwater storage on western side of the valley is good.

Byron Buck (CVWA) - Drinking water quality is improved.

Written comments from Jay Lund: Provides a great deal of flexibility for water quality and quantity operations. Provides access to western valley groundwater storage and Putah Creek surface water storage.

Weaknesses

Stuart Pyle (KCWA) - Potential for serious negative environmental impacts. Engineering feasibility questionable, costs overwhelming.

Pete Chadwick (DFG) - Question operation feasibility. Is it possible to support export of water using this strategy with partial reliance on Shasta and Oroville?

Sina Darabzand (DWR) - Extensive storage is not hydrologically justified.

Byron Buck (CVWA) - Serious cost concerns.

Nat Bingham (PCFFA) - This alternative is a disaster for fish- converts the Sacramento river to a drain. Takes year round flow out of Sac river.

Written comments from Jay Lund: Probably wildly expensive. Loss of flows in upper Sacramento River (increasing temperature problems, and perhaps reducing habitat, drainage problems in the Sacramento River).

Alternative J

Strengths

Pete Chadwick (DFG) - Eliminates entrainment for Delta fish and San Joaquin salmon.

Stuart Pyle (KCWA) - Size of facility offers flexibility, should be preserved and evaluated in alternative C. Also provides an opportunity to improve water quality.

Byron Buck (CVWA) - Has strong source control element.

Written comments from Jay Lund: Operational flexibility and water quality improvements.

Weaknesses

Margit Aramburu (DPC) - East side facility would limit long term support of Delta levee infrastructure. Financial commitment to levees would go away.

Frank Wernette (DFG)- Lacks south of Delta storage.

Polly Smith (LWYCA/SSFBA) - Politically impossible to implement. Especially if bond funds are used.

Nat Bingham (PCFFA) - Reliance on one mega screen, degrades Delta water quality.

Written comments from Jay Lund: Something that probably cannot be done all at once. Perhaps it should be preceded by Alternative C. Who will pay for such a large diversion?

III. HOW WELL DO ALTERNATIVES MEET SOLUTION PRINCIPLES

ALT	MEETS	DOES NOT MEET
A	1	22
B	0	22
C	6	12
D	2	18
E	1	16
F	2	18
G	0	19
H	1	22
I	0	22
J	5	14

Lots of discussion, cost is a real unknown.

What modifications could change votes:

Alternative A:

Robert Mott - Regarding the reduced demand component, land requirement needs to be modified to reduce conflict and to meet solution principles.

Polly Smith (LWYCA/SSFBA) - Land retirement should be part of 3 to 5 alternatives strongly incorporated. However, needs to be modified to accept other elements and alternatives. Expand other means of managing demand.

Cindy Darling (Clubfed)- Focus more on market based incentives and mitigate third party impacts as alt to land retirement. In Delta storage for environmental uses needs to be evaluated for alternative locations to avoid double entrainment and water quality problems.

Nat Bingham - Alternative A is an element which could be added to any other alternative

Robert Mott- Increase system vulnerability elements.

Consider alternative locations for in-Delta storage.

* Question - where does de-salinization come in, needs to come in somewhere.

Lora Steele (EBMUD)- Tiered pricing needs to be a local discretion item.

Alternative F:

Byron Buck (CVWA) - Needs assurance that urban public health needs would be met.

Jay Lund (UC Davis) - Establish mechanism for adaptive management; hardwire a little better.

Leah Wills- Title is misleading should be changed (ecosegment vs ecosystem) or need to change the focus to include the whole system.

Pete Chadwick (DFG) - Unclear how this alternative is equitable, time frame is long (Generic Comment). Through Delta conveyance relied on but levee improvements need more attention.

Sacramento flood control element needs to be analyzed.

Alternative C

Nat Bingham (PCFFA) - Additional habitat and storage from Alternative F should be added.

Larry Turnquist (Redfern Ranches). Current system is inadequate to move water through the Delta. Downstream storage requires system to move it there. Need facility to move water through the Delta. Determine if current system is adequate.

Alternative G

Cindy Darling (Clubfed) - No diversion is needed at Folsom south to improve equitability

Jay Lund (UC Davis) - To reduce cost just build parts of it. Folsom south may be first part

Jim Spence - To make it saleable, need public education on benefits on other tributaries. Build a case for in stream benefits of other tributaries.

Byron Buck (CVWA) - Assurances are needed for Delta water quality and levee maintenance.

Larry Turnquist (Redfern Ranches) - Releases of fresh water on east side may affect water quality of native waters on east side. Need to educate.

Pete Chadwick (DFG) - Expand size of the diversion.

Alternative H:

Richard Harter (Farmer/Writer) - Voluntary innovative solutions to utilize natural systems as alternative to chemical application in agriculture.

Increase emphasis on aquaculture.

Polly Smith (LWYCA/SSFBA) - Parts of Alternatives H and F habitat restoration should be combined into this alternative. Engineering research may be necessary to determine feasibility of moving the peat.

Nat Bingham (PCFFA) - Seasonal operation of facilities for shallow water habitat should be considered.

Jim Spence (DWR) - Need to consider extensive levee stabilization.

ADVICE TO CAL FED ON REFINING ALTERNATIVES

Richard Harter - Better time line details for implementation need to be defined.

Lora Steele - Drinking water person with expertise needed on CalFed team.

David Forkel - Idea of ball park costs are needed.

Jay Lund - Preliminary modeling results on cost and operational issues are needed.

Pete Chadwick- Allocate costs to modest, moderate and extensive levels of implementation.

Margit Aramburu- Use of water under RWQCB recreational use tied to fishing and state and federal funding to state. No evaluation is included in the alternatives, perhaps add to core elements, however, it is needed.

Richard Harter - State Agricultural Commission should be added to the CalFed team.

Anna Hegedus - Explore partnering with federal government projects and programs related to the Delta.

OTHER WRITTEN COMMENTS FROM JAY LUND:

What is the "no action" alternative?

What analytical method will you use to develop detailed, as opposed to "conceptual" alternatives.

What will happen after this CalFed process ends? How will "adaptive management" be implemented and institutionalized over the long haul?