

CALFED Bay - Delta Program
Jones & Stokes Associates

Date: October 16, 1995
To: Program Team
From: Jordan Lang 
Subject: Notes from Green Group at Public Workshop No. 3

Here's the relatively verbatim record of participant comments. Instructions and comments by Dick Daniel, the facilitator, were not recorded. Group-consensus conclusions on positive, negative, or neutral relations between action categories and program objectives are recorded on attached hardcopies of the matrices.

Morning Session: Action Categories to Reduce Diversions of Important In-Stream Flows

Action Category: Delta Inflow/Outflow/Export Management

Lyle Hoag: Are all Category III actions intended to be included on these lists? Is "fish harvest management" included?

Bill Mancinelli: Delta I/O/E management appears in writeup to take inflow as a given, but that is not necessarily true, for example, if upstream consumptive use changes.

David Breninger: Placer County Water Agency, Nevada Irrigation District, and others in watershed "areas of origin" are participating in water transfers and have invested large amounts of money in wise water management. Return flows from these entities are very important in contributing to Delta inflow and these entities should be given credit for these contributions.

Steve Macaulay: Upstream requirements may be changing (e.g. PCWA, YCWA, Oroville, Dom Pedro). FERC relicensing will affect contributions from some of these facilities. Because Delta inflow may be altered by these upstream changes, maximum coordination of upstream releases for fish is very important for Delta inflow management.

Linkage = Delta I/O/E management <> upstream anadromous fish habitat restoration <> onstream storage <> fish passage improvements <> water transfers <> etc.

Russ Brown: Delta I/O/E management affects wetland habitat through salinity management.

Linkage = Delta I/O/E management <> wetland habitat restoration

Steve Macaulay: Can western Suisun Marsh be benefitted (e.g. waterfowl food production) by changes in Delta I/O/E management?

Pete Chadwick: All categories can be linked with each other according to definition offered by Dick Daniel.

Rick Morat: Are linkages intended to be both compensatory (i.e. $-1+1=0$) and synergistic (i.e. $1+1=3$)?

Lyle Hoag: All categories can be linked to each other, given the right caveats, so it is possible to put a + in all cells of the matrix.

Bill Mancinelli: Delta I/O/E management can contribute to all objectives, given certain caveats that could be applied.

Russ Brown: Delta I/O/E management could cause more uncertainty for water supply if it reduces conflict among beneficial uses; that is, it may not be possible to meet both water supply objectives together.

Linkage = Delta I/O/E management <> increased diversion capacity

Group Consensus: Actions in the Delta I/O/E management category benefit ecosystem quality, water supply, and water quality objectives. This action category would be neutral relative to system reliability objectives.

Action Category: Fish Passage Improvements

Pete Chadwick: Flows for fish passage are redundant with Delta I/O/E management. Flows to attract immigrating adults and to assist juvenile passage should be included under Delta I/O/E management.

Ken Lenz: Flows should be excluded from fish passage improvements; this category should be restricted to physical improvements (Group agreed).

Pete Chadwick: Barrier removal for fish passage meets species-population objectives, not habitat objectives. This category addresses "accessibility to habitat", not the habitat itself.

Pete Chadwick: Solving the passage problem at Red Bluff Diversion Dam will reduce conflict between beneficial uses.

Lyle Hoag: Caveats for mitigation should not be brought into the discussion until at a later

stage; at this time focus on big “positives” or “negatives”.

Richard Moss: Fish passage improvements can increase water supply “conflict among uses” and uncertainty (e.g. Yuba bypass flows and loss of hydroelectric power).

Group Consensus: Actions in the fish-passage improvement category would benefit the species population objective but would be neutral relative to the other program objectives.

Action Category: Modification of Diversion Timing Patterns

Steve Macaulay: Modification of diversion timing patterns must be included within Delta I/O/E management.

Group Consensus: This action category was not discussed relative to program objectives.

Action Category: Changes in Locations of Diversions

Lyle Hoag: For this category, many different factors apply to all the different types of diversions (e.g. upstream versus in-Delta versus Delta export).

Pete Chadwick: Moving diversions within the Delta will probably not provide a large benefit because the diversion would still be drawing water from the same water body.

Lyle Hoag: Delta salt balance would be adversely affected by moving diversion location upstream causing, therefore, adverse effects on water quality for agriculture and the environment.

Lester Snow (playing Alex): Moving diversion point upstream could lead to lower reliability of in-Delta water quality and lower reliability of levee protection for existing land uses and the Delta ecosystem.

Lyle Hoag: Protective operating conditions for in-Delta water quality standards have to be linked to moving diversion locations. Changes in locations of diversions also must be linked with guarantees for levees.

Group Consensus: Actions in the category of changes to diversion locations would clearly benefit ecosystem and water supply objectives. This category would benefit objectives associated with out-of-Delta water quality and system reliability issues but could adversely affect in-Delta water quality and system reliability issues.

Action Category: Increased Diversion Capacity

Nick(?) Wilcox: Increased diversion capacity can be linked to increased storage capacity

Linkage = increased diversion capacity <> onstream or offstream storage

Jean Elder: Does "increased diversion capacity" include only Delta diversions or other diversions also?

Lyle Hoag: This category should be renamed "increased Delta diversion capacity".

Lyle Hoag: Increased diversion capacity should be limited to increases in pumping rate, not increases in diversion volume.

Lyle Hoag: Selective diversion is possible with increased diversion capacity to benefit all water quality objectives.

Richard Moss: Increased diversion capacity for Delta export could adversely affect in-Delta industrial users, for example, if these increases caused fish populations to be transported to industrial diversion locations where they would cause diversions by those users to be restricted.

Lyle Hoag: Is the "environmental water quality" objective intended to apply within Delta only?

Richard Moss: Increased diversion capacity could be negatively linked to levee reliability if greater channel flows result.

Steve Macaulay: Increased diversion capacity has to be linked to Delta I/O/E management.

Group Consensus: Actions in the increased-diversion-capacity category could benefit ecosystem quality, water supply, and water quality objectives and were neutral relative to system reliability objectives.

Afternoon Session: Action Categories for Supply Enhancement

Action Category: Watershed Management

Peter Standish-Lee: Watershed management can include actions to manage agricultural discharges in the Sacramento Valley for water quality purposes; therefore, this category should not be limited only to headwater areas and reservoir watersheds.

Richard Moss: Weather modification could be included under this category; it is a proven technique to enhance supplies in California.

Steve Macaulay: Benefits to water supplies from watershed management may not be

detectable; therefore, the program cannot know if it has gotten results from such actions.

Ken Lenz: Watershed management by definition reduces uncertainty by increasing reliability of water supplies.

Several participants: Watershed management controls multiple water quality parameters (e.g. turbidity, pollutants, salinity repulsion) and therefore benefits all water quality objectives.

Dennis O'Conner: Watershed management can control pathogens that are important for recreational water quality.

Richard Moss: Watershed management lowers flood peaks and therefore increases system reliability.

Steve Macaulay: The description of the watershed-management category should be expanded to include comprehensive water quality benefits (e.g. valley-floor water quality).

Rick Morat: Benefits to water supply from watershed management may differ between dry years and wet years.

Bill Mancinelli: Does a net benefit for water yield result from delaying snowmelt relative to evaporation losses?

Rick Morat: In general, moderation of runoff hydrology through watershed management must be beneficial, even if varying results between water-year type.

Group Consensus: Watershed management actions can benefit all program objectives.

Action Category: New or Expanded On-Stream Storage

Steve Macaulay: Are benefits or impacts from on-stream storage intended to focus on aquatic-habitat objectives in the Delta?

Rick Morat: Upstream aquatic habitats are adversely affected by on-stream storage.

Pete Chadwick: On-stream storage can capture large flows to provide habitat benefits much better than off-stream storage.

Pete Chadwick: Benefits and impacts of on-stream storage are highly site-specific. On-stream storage can have negative impacts on upstream aquatic habitats.

Russ Brown: Because of high site-specificity (e.g. Auburn Dam versus Marysville Dam), all cells should contain both + and - for all objectives.

Richard Moss: Does on-stream storage category include North Coast reservoirs?

Dick Daniel: Wild and scenic rivers protection forecloses on-stream storage on most North Coast rivers.

Pete Chadwick: Watershed management and on-stream storage have similar benefits to all Delta-based objectives.

Richard Moss: On-stream storage has large benefits for system reliability.

Pete Chadwick: Ability to capture peak flows quickly in on-stream storage facilities would reduce flow pulses to Bay that may be important to Bay species such as Bay shrimp (e.g. reducing 50,000 cfs peaks to 25,000 cfs).

Pete Chadwick: On-stream (or off-stream) storage projects may transfer impacts to other locations and other resources (e.g. Los Banos Grandes and rare sycamore riparian habitat).

Group consensus: Actions in the on-stream storage category can benefit ecosystem quality, water supply, water quality, and system reliability objectives but can also adversely affect aquatic habitats.

Action Category: New or Expanded Off-Stream Storage

Lyle Hoag: Off-stream storage produces larger benefits for all objectives (compared to on-stream storage) because all types of impacts are straight-forward and mitigable.

Russ Brown: Off-stream storage also enables capture of peak flows so it will have aquatic habitat effects.

Pete Chadwick: Off-stream storage more likely to use relatively uniform diversion rates and therefore it would have less effect on peak flows than on-stream storage. Off-stream storage would be filled by pumping from an aquatic habitat (e.g. diversions from Sacramento River to fill Sites Reservoir) so it would have adverse effects on that habitat.

Bill Mancinelli: Are on-stream and off-stream storage really different?

Dick Daniel: Differences are in rate of accruing storage refill.

Ron Knierim: Off-stream storage may be politically more acceptable because of perceptions of less impacts.

Steve Macaulay: As with on-stream storage, benefits and impacts of off-stream storage are site-specific, but the two categories should be kept separate.

Pete Chadwick: Direct impacts are more severe for on-stream storage.

Lyle Hoag: Off-stream storage cannot capture peak flows and therefore cannot benefit system reliability.

Pete Chadwick: The whole group of supply-enhancement action categories can produce a lot of possible benefits for all objectives, but these benefits are very site-specific.

Group consensus: The off-stream storage category benefits ecosystem quality, water supply, and water quality objectives but is neutral relative to system reliability objectives. Off-stream storage can adversely affect aquatic habitats.

Action Category: Groundwater Banking and Management

Steve Macaulay: Benefits of this category are also very site-specific. For example, groundwater recharge basins can be managed for wetland habitat.

Steve Macaulay: Conjunctive use programs are usually based on in-lieu recharge wherein use of surface water shifts between recharge and consumption. Therefore, groundwater management cannot usually support wetland habitat.

Group consensus: Actions in the groundwater-management category can benefit ecosystem quality and water supply objectives but would be generally neutral relative to water quality and system reliability objectives.

Action Category: Construction and Improvement of Conveyance Facilities (renamed to be "Construction of Isolated Transfer Facilities")

Rick Morat: Delta channels should not be included as conveyance facilities.

Pete Chadwick: This category and the "Delta channel modifications" category should be recombined so that one category is generic through-Delta conveyance and the other category is generic isolated conveyance facilities. For example, an island-to-island transfer facility could be isolated.

Pete Chadwick: Impacts of an isolated facility would be highly species-specific. Some species (e.g. white catfish and Delta smelt) would be benefitted by an isolated facility.

Rick Morat: San Joaquin fish would benefit by an isolated facility.

Richard Denton: It should be assumed that releases from an isolated facility would benefit fish and water quality.

Ken Lenz: An isolated facility would benefit aquatic habitat by increasing residence time and reducing reverse flows.

Steve Macaulay: At least 50 mitigation measures (i.e. conditions of operation) would be attached to any isolated transfer facility.

Pete Chadwick: A risk exists that the specified mitigation measures and operating conditions would not be implemented.

Ken Lenz: This category for isolated facilities should have a big "L" (i.e. major linkages to other action categories) for all program objectives.

Richard Moss: A modestly-sized isolated transfer facility should be considered to demonstrate the ability to mitigate such a facility.

Pete Chadwick: Another possibility to be considered is a dual combination of a small isolated facility (for drinking water) and thru-Delta conveyance improvements (for agricultural water).

Lyle Hoag: A dual operational scheme to separate drinking water from other uses can be implemented either with split physical facilities or by sequentially using south-of-Delta conveyance and storage facilities for high-quality and low-quality water.

Lyle Hoag: A 5-year-old CUWA report showed that the costs of either a small- or large-sized isolated transfer facility can be justified.

Pete Chadwick: The program needs to analyze different sizes of isolated facilities. An analysis regarding environmental benefits of different sizes of facilities has not been done.

Dick Daniel: Can an isolated facility be sold to the public if only to establish system reliability but not to increase yield?

Lyle Hoag: "Risk of incompetence" is being evaluated if it is assumed that an isolated facility would be built without appropriate protections.

Linkage = isolated transfer facility <> levee reliability

Richard Moss: Increases in Delta exports are only foreseeable and acceptable if based only on surplus flows. (Lyle Hoag and Steve Macaulay did not agree.)

Pete Chadwick: Ability of an isolated-transfer facility to avoid species impacts is not certain (e.g. feasibility to screen fish from the intake).

Group consensus: Actions in the isolated-transfer-facility category can benefit ecosystem quality, water supply, and water quality objectives. Such actions can adversely affect system reliability objectives without substantial linkages to other action categories. An isolated transfer facility can adversely affect aquatic habitats without substantial linkages to other action categories.

Action Category: Delta Channel Modifications (renamed to be “Construction of Through-Delta Conveyance Facilities”)

Pete Chadwick: Thru-Delta conveyance has aquatic-habitat impacts.

Group consensus: Actions in the through-Delta-conveyance category can benefit water supply and water quality objectives. Such actions can greatly benefit system reliability objectives given substantial linkages to other action categories (e.g. levee maintenance). A through-Delta facility can adversely affect aquatic habitats and species populations without substantial linkages to other action categories.