CALFED Bay-Delta Program
Jones & Stokes Associates

Date: October 17, 1995

To: Program Team

From: Craig Stevens

Subject: Notes from the 10/12/95 CALFED Workshop #3 - Yellow Breakout Group.

Morning Session

WATER TRANSFERS

Clarification: This category includes transfers through the Delta and transfers not involving the Delta.

One attendee stated that water transfers could be beneficial to aquatic habitat if the transfers were timed to coincide with fish flow needs. Another attendee (John from USBR) contended that transfers would have neither positive nor negative effects on aquatic habitats. He contended that transfers would only occur when the Delta operated under control. Under control means the projects are operating to meet the water quality standards, and not using any more water than needed to meet those standards. If the Delta is being operated to meet the standards, and the standards are being met, then transfers wouldn't provide any additional benefit. Out of control means there is more water than is needed to meet the standards. When the Delta is out of control you have unappropriated water in the Delta so you wouldn't need transfers because you could pump the additional water. If the Delta were not under control (not meeting the standards) then transfers would not be allowed to take place. On the other hand, if there were any unappropriated water in Delta, no transfers would occur because excess available.

Someone stated that the flexibility and benefits of water transfers would be enhanced when coupled with in-Delta and south-of-Delta storage.

Kathy Kelly said she worked on Drought Water Bank last year. In that project users exchanged groundwater for surface water and transferred the groundwater. They also transferred reservoir storage. They transferred the water during August, September and October from upstream of Delta through Delta during drought could improve aquatic and wetlands habitat upstream of Delta. Environmental assessment found there was no negative impact, possible positive impact outside the Delta during drought times.

Jim stated that if transfers outside the Delta remove the need for exports, they would have positive impacts on aquatic resources. If the transport required more exports you would have negative impacts.

Tom stated that he worked on a program for substituting winter grains for summer crops. Thus water diversions for agriculture in the Delta would be made during the winter when there is more water flow in the Delta. Paul asked Tom whether his program involved the sale of water not diverted in summer to someone else. Tom responded that the water not diverted in summer could

be retained upstream to meet water quality standards, used to enhance the ability to export water, or used to meet Delta outflow requirements. The results were a savings of 1.3 acre-feet of water per acre. Some people in the group thought that this might actually fit into the category related to changes in the timing of diversions, another action category. Others felt that since the program was part of the Drought Bank program, it should be included within the broad category of water transfers.

Mark said that he is involved with users upstream on the San Joaquin side of the Delta and has been involved in transfers down the San Joaquin River through the Delta. They worked with California Department of Fish and Game for a block of water during the fall to be sold to an exporter. These transfers were designed to provide most benefit possible to the environment by contributing to pulse flows. If this water ended up as Delta outflow, it would be paid for thought the Central Valley Project Improvement Act (CVPIA). Fish and Game claimed that there was no benefit for the water to go from the export pumps out. This provided benefits to aquatic habitat.

Victor tried to summarize by saying that transfers through the Delta may not directly benefit aquatic habitat in the Delta, but that it could have in-stream benefits.

Stuart stated that in a transfer, the water buyer doesn't want to pay for environmental benefits, so transfers should be neutral, especially if the standards are met. If incidental benefits are possible by timing the transfer, that's desirable, as long as the buyer doesn't have to pay.

Mary stated that a cross-Delta transfer may not have beneficial effects on the environmental, but transfers outside Delta may provide instream benefits outside the Delta.

Stein asked: "Delta standards are thresholds beyond which you cannot go. Does that mean that there is no environmental balance by going beyond the threshold? The answer given was that under those circumstances, no transfers would occur, since there would be extra water in the Delta for extra. Someone stated that there could be permanent transfers that continue year after year. Might these not provide some benefit?

Lora stated that at some stage in the process it would be helpful the Water Transfers category were broken into in-Delta, north of Delta and South of Delta transfers. She also stated that any positive benefits associated with transfers, they are linked to other actions such as changes in the timing of diversions.

Wendy stated that water transfers can be made for instream uses and would then be beneficial to ecosystems.

Wetlands Habitat

Larry stated that transfers can provide pulse flows to stimulate adult salmon to migrate upstream to their spawning grounds. Water can also be used to freshen the water quality of wetland habitats, particularly in the San Joaquin Valley where water is short at that time of the year. These can also provide benefits to wetlands habitat (if riparian is considered wetlands).

Mark Van Camp stated that water transfers can be conducted for specific purposes that benefit aquatic or wetlands habitat.

In response to a question from Victor, John said that water transfers could have negative effects on habitats, if, for instance, a wetland area were drained to provide the water to another user. Someone else said that such a transfer could never take place.

Kathy stated that transfers have a big potential to add to supply and to have benefits for all objectives. We haven't explored all of the opportunities provided by transfers.

Byron said that he didn't think that transfers would have a negative for any category.

Water transfers would definitely to resolving conflicts between beneficial uses.

Lora stated that if third party impacts are addressed then water transfers have the potential to reduce conflicts between beneficial uses.

Stuart expressed again his concern that environmental benefits shouldn't be done at the cost to the buyer.

Larry said that if you could get fish to where they should be, such as to their spawning grounds, then you can improve their populations.

Tom stated that it could work the opposite, depending on whether you can resolve third-party conflicts. If water is transferred from an agricultural use to another use, then return flows would also be reduced which could hurt fish.

Wendy stated that the effects would be positive if only net (consumptive) use not withdrawal amount could be transferred.

Wendy stated that transfers for environmental purposes would have positive benefits, and even untimed transfers (not timed for a specific purpose) could be beneficial to species (such as the Delta Smelt).

Lora stated that, if linked to off-stream storage, then transfers through delta could be timed to benefit fish and wildlife.

Water transfers would have a positive effect on water supply reliability because the transfers would allow needs to be met.

It was stated that water transfers, more than any other category are situational, with affects directly related to how they are implemented.

Everyone agreed that water transfers would be beneficial for water supply reliability. Although the potential exists for a seller to threaten his/her own water supply by entering into a transfer, it was agreed that most people wouldn't transfer water if there would be a negative impact on their supply.

Stein stated a concern that could be uncertainty for the environmental benefits of water transfers because money can drive the transfer process and this opens a whole area of risks, with the only protection for the environment being environmental review.

A question was raised as to whether the objectives related only to the Delta, or a larger area.

Victor answered that some objectives are related to the Delta only. For instance drinking water applies only to drinking water taken from the Delta.

It was stated that water transfers would have no effects on drinking water quality.

Kathy Kelly said that at the City of Tracy wastewater treatment outlet, if less water is exported, water flow in south delta would decrease, and discharges into this area from wastewater would not be as diluted, and thus may be detrimental to water quality.

There was considerable discussion and disagreement as to whether water transfers could improve water quality in the Delta. Some people contended that a benefit could accrue, while others felt the effect would be neutral, although there could be very localized benefits within Delta during dry years.

Sina asked: What if transfer was done for drinking water quality (to repel salt in groundwater)? Wouldn't that be a positive effect?

There was a discussion of what would happen if water were transferred. One person stated that if water were transferred from the Yuba area, the operator of Oroville Reservoir would release less water to meet the water quality standards, so the effect would be zero on water quality in the Delta. Someone said that if the water were designated for export, that wouldn't be true.

Jim stated that transferrers want the State to time shift the transfers, so the release from the reservoir might be shifted in time. He also stated that tidal effects in the delta are 2-3 orders of magnitude larger than any transfers, but they would be very small and localized.

Magnitude of transfers determines effects, should keep in mind the transitory effects of transfers.

Lora stated that the effects would likely be small and transitory.

Wendy stated that if transfers increase dependence of water users on the SWP, then that would lead to increases in impacts on system vulnerability.

Tom said that if you fallow land in the Delta, you impact land use and decrease the zeal to maintain levees.

South Delta transfers reduce water users reliance on cross-delta transfers and thus reduce vulnerability.

Lora stated that the reliance of people south of the Delta on Delta water keeps them interested in levee maintenance. She also stated that transfers could be linked to levee maintenance to reduce system vulnerability. Transfers could also be linked to changes in project operations to reduce the scouring of levees.

MODIFICATIONS OF STANDARD OPERATIONS

Lora stated that it is important to provide flexibility to reoperate the system by having additional storage.

Wendy stated that the definition of this action category says to "maintain water supply", and it should say improve.

It was stated that predictability is related to demands made on the system; increasing demands on the system will reduce predictability.

Larry stated that changing the timing of diversions could benefit all environmental objectives.

Sina stated that the purpose of this exercise is to find synergies between categories.

John stated that predictability is dealing with uncertainty. Since we can't change the uncertainty of the hydrology, we only can deal with the regulatory uncertainty.

It was stated that regulatory standards have the biggest effect on the unpredictability of supply.

Stuart asked: What does modifications of standard operations mean. The answer given: changes to regular operations.

Kathy stated that operations are restricted by standards. More flexibility would add to predictability of supply.

Paul stated that if modifications to operations are not restricted to supply predictability, then this category could result in positive benefits for many categories.

If you improve the predictability of the water supply system, then you might have detrimental effects on the ecosystem.

Jim stated that there is no room to modify operations to improve water quality. Modifications of operations could only improve water quality if it were linked to other actions. Someone else stated that the same applied to ecosystem quality, that benefits would only accrue to ecosystems if modification of operations were linked to other actions.

Kathy disagreed, stating that there are opportunities to provide flexibility in timing to benefit fish. She referred to flexibility related to SWP use of CVP pumps during times they are restricted.

Stuart stated that opportunities when linked to real time monitoring, so that operations are linked to real conditions rather than theoretical or average conditions.

Lora stated that linking modification of operations to water banking allows opportunities for benefits not only for water supply predictability but for environmental objectives too.

Tom stated that operations could be modified to reduce flood pressures in the Delta, reduce water levels at critical times, by modifying releases from upstream reservoirs, changing operation of the Delta Cross Channel, and modifying operation of the pumps.

Eric stated that by trying to increasing carryover storage, you would be keeping more water in reservoirs and that would provide less flood protection.

There was a discussion of the fact that you could modify operations to meet one or more objectives, but not all at the same time.

Mary stated that improving the reliability of supply must be linked with demand management.

Establishment of Institutions for Integrated Long-term Water Management + Integration of Land Use and Water -Supply Planning + Demand Management

Lora stated that establishment of institutions for integrated long-term water management is linked to integration of land use and water supply planning, and they could be combined. Demand Management should also be combined with these two.

Victor clarified his conception of the definition of this category was that the responsibility for water supply planning was currently in many federal, state, and local hands and that there was no single entity responsible for planning for the whole state. This doesn't necessarily mean creating an agency, but could be a coordinated operating agreement.

Stein disagreed with Victor saying that the Department of Water Resources is an institution designated to provide statewide water resources planning, and does provide that function. Should fix this institution rather than creating a new one.

Victor defined Establishment of Export Capacity Market.

Key is land use planning.

Tom stated that we need to look at managing demand, as part of land-use and water supply planning.

Lora stated that the State of California needs growth management plan to help solve the water problem.

These actions would reduce the conflicts between beneficial uses by allowing tradeoffs up front rather than at the end when the problems are critical. It would also reduce demand for water from the projects. On the other hand, the planning process could get more water to meet projected demands.

It would benefit uncertainty and would benefit species populations, and aquatic and wetland habitats.

Mary stated that if actions in this category reduce conflicts between beneficial uses, environmental needs are beneficial uses, but to do that you may need changes in regulations.

P.M. Session

Victor asked for definitions for the Integration of Long-Term Water Management and Water Supply Planning.

Edy stated that the integration of land use and water supply planning was the coordination of water and land use planning. Aquatic habitat could benefit if land use planning accurately predicted amount of water needed. Also, you could ensure sufficient supplies for aquatic habitats in the land use planning process.

Jim stated that we assumed that City and County land use planner are connected to water planning, but there is no such connection. Land use planners have no stake in water planning, since they are not responsible for it. Integration of two is necessary. This could be accomplished by requiring that the incremental effects of new development on water supply be determined. Something such as the Costa Bill (but not necessarily that particular bill) is one example of how it could be done.

John stated that nothing would happen unless one agency takes all of this responsibility or the Legislature creates such an agency. Historically, the SWRCB hasn't wanted to get involved with land use planning.

Someone stated that you can link land use and water planning, but it doesn't guarantee success, depends on how it is set up. It could lead to more pressure for water development. We can't know the outcome, as to whether it would have positive or negative benefits for program objectives.

Mary stated that if integrated land use and water planning leads to reduction in conflicts between beneficial uses, through a rational allocation of water, and if environmental uses are treated equally with other beneficial uses, then aquatic habitat could benefit.

Lora stated that the Legislature could rewrite General plan law to require Cities and Counties to include a water supply element, requiring them to have a dialogue with the local water supplier. There is a Memorandum of Understanding regarding urban water conservation in California, a paragraph of which states that water agencies should coordinate with their local land use planning agency on an annual basis, but this is not being done in a significant way.

Edy stated that good planning could leave some water for environmental purposes.

Mary stated that predictability of supply and demand are married with each other in this category. Instead of demand driving supply, there is a potential for both sides being integrated.

Sina stated that even going so far as requiring land use planning agencies to consider all beneficial uses, doesn't guarantee a benefit for the environment. All entities would consider water for environmental uses, but may not allocate water to them.

A long discussion of the process ensued.

Mary stated that integrating land use and water supply planning may leave more water for the environment in the future, not now.

It was stated that land use planning agencies would be forced to look at the big picture at make responsible public policy decisions based on the water supply picture and the water situation. This would provide the possibility of more responsible land use decisions being made.

Tom stated that controlling demands for water could improve the quality of delta water. Maybe development would be put in locations where smaller amounts of water are needed to support it (e.g. on the coast instead of in the desert).

Though there wasn't unanimous support, the group generally agreed that water quality for all uses could be improved through the integration of land use and water quality.

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John stated that in dry years quality will already be bad. In good years they will already be good.

It was stated that we shouldn't assume that standards are set in stone, they could change either way in the future.

Victor suggested that standards be a new category.

Everything is related to the standards.

Paul stated that land use planning is based on many factors in addition to water. Market considerations determine growth as well. Thus water may not be a deciding factor in influencing growth and development.

Tom stated that integrating land use planning and water planning could improve the system's vulnerability by including Delta vulnerability as a factor. He cited the work of the Delta Protection Commission.

Reduction in Subsidence, Levee Maintenance and Stabilization, Flood Protection

Edy suggested that reduction in subsidence, levee maintenance and flood protection be combined into one category because they all require levee maintenance or involves the building of levees.

Victor mentioned that you could also improve flood control in the Delta by changing Corps flood control rule curves at upstream reservoirs, so that maybe they should be separate.

Byron stated that by flooding an island that is no longer being farmed you could provide aquatic habitat (especially shallow water habitat).

It was stated that flooding islands would create wetlands habitat.

Stein stated that protected shallow water habitat is very valuable; deep water is not so valuable because there is no shortage of this habitat..

Some attendees thought that flooding islands would be slightly positive or neutral for aquatic habitat, but quite positive for wetland habitat.

Larry stated that flooding the island would be beneficial for waterfowl populations since waterfowl would use the seasonal wetlands.

Island subsidence could also be reduced by filling with dredge material. With dredge filling, there would be only a small improvement to habitat.

Stein proposed breaking the subsidence category into actions involving flooding islands, and actions involving dredge material filling.

Lora stated that you need subcategories for Land Subsidence to break out flooding and dredge deposits.

Tom stated that if reducing land subsidence reduces the risk of flooding, it could reduce the uncertainty of water supply, maybe reducing conflicts between beneficial uses. This would apply to both flooding and dredge filling.

Stein stated that reducing subsidence would reduce conflicts between beneficial uses because the cost of maintaining water supply is reduced if subsidence is controlled and levees are maintained, thus reducing conflicts.

Wendy stated that flooding islands also reduces conflicts by creating extra storage capacity.

Gilbert stated that the creation of shallow water habitats loses 60% more water consumptively, through evapotranspiration, than farming.

Lora stated that there is a positive benefit to the water supply if by reducing land subsidence you improve supply reliability.

Paul stated that by reducing land subsidence, if levee failure is reduced, water quality is protected.

Byron stated that creation of wetlands and agriculture both have return flows with organics, and he wasn't sure which would create more?

The reduction of subsidence through the use of dredge material could be a detriment or benefit to water quality, depending on quality of dredge material. Dredging contaminated materials could resuspend toxins, contaminating the food web.

Someone stated that reducing land subsidence by itself wouldn't effect water quality, but could do so indirectly through protection from levee breeches.

Stein stated that the use of islands as wetlands could improve water quality by allowing flexibility in timing of pumping return flows when channel flows are highest.

Gilbert asked who will pay for maintenance of levees around wetlands, since the productive use of the land would no longer occur? Thus flooding islands to reduce subsidence may not be beneficial for levee protection if maintenance of levees is not continued.

Tom stated that subsidence and levee maintenance are linked. To support levees, you only need to control subsidence in a narrow band (300-400 feet) behind the levees, not the whole island. Then you stabilize this narrow band with vegetation. You don't have to flood or fill the whole island.

Gil stated that we should focus on halting subsidence, not getting accretion because accretion would occur very slowly. Change category to Controlling Land Subsidence.

Tom stated that flooding islands doesn't protect levees.

Stein stated that while in most of the delta flooding would be used to control subsidence, in experiments in the west Delta they have actual caused accretion by combining shallow flooding with revegetation. There was some discussion regarding the rate at which accretion would occur.

If levee maintenance and stabilization were done by controlling vegetation, it could be negative

for wetland habitat, especially if spraying chemicals is used. By removing vegetation, you remove habitat. It would probably be neutral for aquatic habitats.

Jim asked if this category included building new levees inside existing ones. If it does, this action could be positive for habitat.

Stein stated that levee maintenance through the creation of backside levees can be done to enhance habitat as well as stabilizing levees.

Gilbert stated that levee maintenance districts have strict maintenance regimes because the situation is so bad.

Jim stated that spraying for vegetation maintenance could be negative for water quality. Other activities could have short term negative impacts (riprapping). If setback levees or berm construction, it could be neutral for water quality. The activity, not the riprap could cause short-term water quality problem by disturbing the soils.

Lora stated that levee maintenance could have localized water quality impacts if they are done near diversion intake locations.

Stein argued that the maintenance of levees is so critical for every aspect of Delta resources, that it overshadows all negatives impacts.

Wendy stated that maintaining levees doesn't help achieve goals, but failing to maintain them means you can't achieve any goals.

John stated that levee maintenance is only critical to water supply if water continues to be moved across the Delta for supply.

If the peripheral canal were implemented, levee maintenance would no longer be critical for water supply vulnerability, because it would move water supply facilities out of the Delta.

Stein reaffirmed the national significance of the Delta for wildlife, fish, recreation, and water supply.

Someone stated that the Delta would be much more benign for fish if there weren't major diversions in it.

Jim stated that the peripheral canal could improve water quality in the east Delta if it had turnouts at sloughs.

Tom refuted this statement, because Mokelumne River water which feeds the east delta is cleaner than Sacramento River. So adding Sacramento River water would degrade water quality.

Wendy stated that the peripheral canal would improve water quality for exporters.

Jim stated that the peripheral canal would take away the incentive to maintain levees. Thus this action would need to be linked to a program to provide funding for levee maintenance.

Edy reiterated that flood protection should be grouped with levee maintenance because

maintaining levees is a means of flood control.

Victor clarified that levee maintenance means shoring up existing levees to meet current threats, while flood protection may mean increasing the height of the levee.

Gilbert stated that levee maintenance means retaining minimum standards for the levees. Flood control means higher standards. Flood protection could also be setback levees with hundreds of feet of new flood capacity. Others mentioned non-levee flood control actions such as changing flood control curves, flood bypasses, flooding islands, etc.

Other Suggestions for Categories

New Name for Reduction of Seismic Hazards Category: Reduction of Seismic Damage Potential. Could be included in Flood Protection, Protection and Rerouting of Infrastructure. Seismic should be split into Levee Maintenance / Land Subsidence and Protection of infrastructure. Could change Protection and Rerouting of Infrastructure to Reducing Hazards to Infrastructure.

Tom stated that PG&E did a study to see what the best way to protect their infrastructure in the Delta. They concluded that the best way was to protect the levees surrounding the island.

Comments recommending changes to the list of Action Categories are shown in redline.