Summary of Meeting
CALFED Bay-Delta Program Levee and Channel Technical Team
July 22, 1998

Key Discussion Items:

- There was a presentation on seismic risk assessment.
- There was more discussion on the Suisun Marsh levees and whether or not these levees should be incorporated into a funding program for improvements. The discussion included a presentation by DWR Environmental Services Office on modeling run simulations for flooding conditions.
- The Delta Protection Commission has prepared a discussion paper dealing with proposed Ecosystem Restoration Locations and a handout was passed out.

Action Items:

- The presentation on seismic risk assessment included material that was presented by Dr. Ray Seed at the recent Management Team, Policy Group and BDAC meetings. There was more discussion of the CRCV (Coast Range Central Valley) Delta Fault Model and the Lettis Delta Fault Model. There are fewer theoretical levee failures with the Lettis model and the size of the magnitude is less. The Zone I to IV diagram that was shown at the prior meeting was revised to show Hastings and Liberty Islands added to Zone IV as per comments from the group. Some meeting participants thought a "probability" curve would be more valuable that the "number of failures" curves. Bill Betchart passed out a handout of his own that was based on the probability of exceedance curve for a 30-year exposure.
- Options for the marsh area include: 1) adding 230 miles of the levees into CALFED's levee program for inclusion for upgrades, 2) adding the levees to CALFED's ecosystem program, 3) delaying a decision until 1999 to better understand quantity costs as well as impacts and benefits, or 4) not adding the marsh levees to any of the programs. The CALFED Policy Group has not made any decisions as of yet for or against inclusion of these levees. There was a presentation by Chris Enright of DWR-ESO on the preliminary modeling analysis of the 1998 Suisun Marsh Flood. Theoretical fifty percent openings result in increased salinity at Jersey Point. However, smaller breaks improve Delta water quality.
- The Ecosystem Restoration Locations discussion included a handout from the Delta Protection Commission that includes mapping of present land ownership, proposes a wildlife friendly farming practice program, and proposes enhancement of riparian corridors on the Sacramento, Mokelumne, and San Joaquin River systems. The material is being presented for public input. The initial burden on a farmer is about 60 extra days of flooding on fields and about 5 to 10% of crops that are left unharvested for bird forage. There was reference to a demonstration project that was done on Rindge Tract in 1993-94 but there was plenty of water that year and the practice was not as well received by the ~~farmers~~ as it could have been.
- The next meeting of the CALFED Levee and Channel Technical Team will be on

State water Contractors

September 9, 1998 from 9-12 in room 1142 of the Resources Building.

Draft Meeting Notes
CALFED Bay-Delta Program Levee and Channel Technical Team
July 22, 1998 at 9:00 am in room 1131 of the Resources Building

Attendance List:

Margit Aramburu, Delta Protection Commission
Bill Betchart, private consultant
John Cain, Natural Heritage Institute
Lori Clammarro, Delta Protection Commission
Robert Clark, CCVFCA
Rob Cooke, CALFED (chair)
Gil Cosio, Murray Burns and Kienlen
Dick Daniel, CALFED
Chris Enright, DWR Environmental Services Office
Kamyar Guivetchi, DWR Environmental Services Office
Les Harder, DWR
Valerie Holcomb, CALFED
Chuck Howard, US Bureau of Reclamation
Kenneth King, private consultant
Gwen Knittweis, CALFED
Gil Labrie, DCC Engineering
Ed Littrell, Fish and Game
Chris Neudeck, KSN Engineering
Michael Norris, DWR Central District (minutes)
Lynn O'Leary, Corps of Engineers / CALFED
Michael Ramsbotham, Corps of Engineers / CALFED
Mark Schultz, DWR
Don Wagenet, RMI Inc.
John Winther, Delta Wetlands
Tom Zuckerman, Central Delta Water Agency

Rob Cooke convened the meeting. The meeting minutes from 6-18-98 CALFED Levee and Channel meeting were reviewed and approved by the group with one comment on the sentence "Margit said the Zone I to IV drawing does not include the full legal Delta and Lynn O'Leary said that was because the study looked at levees holding back water all the time and not just during flood events (IE above sea level)." The reference to "holding back water all the time" was changed to "protecting land at or below sea level."

Les Harder did a slide show presentation on seismic risk assessment. The overheads included a list of the sub-team members, the CRCV (Coast Range Central Valley) Delta Fault Model, the Lettis Delta Fault Model, and peak accelerations for a 100-year return period for the two models.

Les said that inertial deformation and liquefaction are the two modes of seismic failure for levees that we see.

The Zone I to IV diagram that was shown at the prior meeting was revised to show Hastings and Liberty Islands added to Zone IV as per comments from the group.

Tom Zuckerman asked about the separation between Zones II and III. Les said it was contours of thickness of peat that were the distinction.

One chart on the potential number of levee failures drew a lot of questions from the meeting participants.

There were overheads on Fragility Values and the Magnitude Correction Factor. There were overheads on the number of levee failures in a single earthquake for the CRCV and Lettis models. There are fewer theoretical levee failures with the Lettis model and the size of the magnitude is less.

There was discussion of questions that had been brought up at the BDAC meeting during the seismic presentation by Dr. Ray Seed.

There were overheads on theoretical earthquakes along the Hayward and Concord Faults.

Some meeting participants thought a "probability" curve would be more valuable than the "number of failures" curves. Chris Neudeck noted that "levee failures" is not the same as "island failures". There would probably be a several to one relationship.

Rob summarized the potential risk management strategies that are available. Potential Risk Management Strategies include:

- Improved Emergency Response
- Improved Fragility of levees
- Develop storage south of the Delta
- Improved Through-Delta conveyance
- Release more water into the Delta from northern reservoirs
- Curtail CVP and SWP deliveries
- Construct an isolated facility
- Some combination of the above

Tom Zuckerman asked if there was a way of factoring in whether or not a seismic event would have an impact on water quality. John Cain noted he had several requests for "risk analysis" being done in the remaining studies.

Bill Betchart passed out a handout of his own that was based on the July 16, 1998 presentation at the BDAC meeting by Dr. Ray Seed on the probability of exceedance curve for a 30-year exposure. Bill had one comment on a potential earthquake destroying all the ecosystem

improvements that would be funded through Dick Daniel's program and then we'd have to start all over again. Dick responded by noting that material could be strategically stockpiled near Sherman Island to deal with a levee breach quickly.

Les noted the enormous monies that could be spent studying some of these concerns with no monies going to reduce fragility and fix the problem. Tom noted the Dames and Moore study on McDonald Island that only cost about $1 million.

Les called for final comments from all participants so he can complete his report. Chuck Howard and Ken King had some comments for incorporation.

The next agenda item dealt with the Suisun Marsh levees. Options for the marsh area include adding 230 miles of the levees into CALFED's levee program for inclusion for upgrades, adding the levees to CALFED's ecosystem program, delaying a decision until 1999 to better understand quantity costs as well as impacts and benefits, or not adding the marsh levees to any of the programs. Rob Cooke noted the CALFED Policy Group didn't make any decisions based on his recent presentation to that group.

There was a presentation by Chris Enright on the preliminary modeling analysis of the 1998 Suisun Marsh Flood. A steady state run of the Delta Simulation Model (DSM) produced a graph after 9 months of theoretical levee breaks one at a time. Chris noted that not fixing the marsh levees can improve water quality. Another run with assumed fifty percent openings on most islands results in increased salinity at Jersey Point.

The next agenda item dealt with proposed Ecosystem Restoration Locations. Tom Zuckerman gave an update. A handout from Margit Aramburu was passed out. The handout includes mapping of present land ownership, proposes a wildlife friendly farming practice program, and proposes enhancement of riparian corridors on the Sacramento, Mokelumne, and San Joaquin River systems. Margit noted that, although the document is being presented by the Delta Protection Commission (DPC), it isn't necessarily expected to be formally adopted by the DPC. Rather, the material is being presented for public input. Tom noted the program couldn't be expected to keep urban areas from expanding into the Delta because there are no financial incentives. Rather, the program encourages the Delta farmer to use good farming practices. Margit noted the program incurs labor and internal management expenses and these costs are non-reimbursable. According to Tom, the initial burden on a farmer is about 60 extra days of flooding on fields and about 5 to 10% of crops that are left unharvested for bird forage. The crop loss could be reimbursed.

Dick Daniel gave a brief explanation of the program and made reference to the former Drought Water Bank and the lessons we learned there. This program would cost $20 to $40 per acre and not hundreds per acre. Also, there was reference to a demonstration project that was done on Rindge Tract in 1993-94 but there was plenty of water that year and the practice was not as well received by the ~~farmers~~ as it could have been.

SWO

There was no more time for the remainder of the agenda items to be discussed as the room was needed by another group for a prearranged conference call. Gil Cosio handed out his levee cost analysis update for meeting participants to take with them. Agenda items that were not covered could be picked up at the next meeting.

Rob scheduled the next meeting of the CALFED Levee and Channel Technical Team for Wednesday September 9, 1998 from 9-12 in room 1142.

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