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Memorandum

To: CALFED Ecosystem Water Quality Technical Sub-Team

From: Carol Howe, CALFED CT

Subject: **CALFED Actions**

Date: September 5, 1996

Attached is the revised CALFED Actions List. Actions have been grouped into broad classes and are numbered from 1 to 41. Much liberty was taken with the organization of the actions, but their content has been retained. The list was compiled to assist the Water Quality Sub-Teams in evaluating the impact of CALFED actions on water quality. The list has been reorganized (from the original list distributed to the sub-team at the first Ecosystem Water Quality meeting) to increase comprehensibility and reduce redundancy.

RESPONSIBILITIES OF ECOSYSTEM WATER QUALITY SUB-TEAM MEMBERS

1. Read the entire list of actions

2. Review each action (e.g. 1,2,3) and make notes on the:
   - benefits and constraints associated with implementing each action
   - comprehensiveness of action list

3. **Bring your notes on the "Reorganized Actions List" to the next Ecosystem Water Quality meeting on September 19.** If you cannot attend please send your comments to me at:
   - Montgomery Watson, 777 Campus Commons Road, Suite 250, Sacramento, CA 95825
   - FAX: 916/924-9102
   - E-mail: carol.howe@us.mw.com

4. Fill out the attachment titled "Parameters of Concern Likely to be Addressed by CALFED Water Quality Actions". Using the "Reorganized Actions List" as a reference list for descriptions of actions, check off the parameters you believe each action will address.

   Those of you who previously submitted your checked off parameter list only need to consider: carbofuran, chlorpyrifos, chlordane, diazinon, toxaphene, DDT, PCB, Turbidity and Unknown Toxicity.

5. **Fax the completed "Parameters of Concern Likely to be Addressed by CALFED Water Quality Actions" to me by Monday, September 16.**

We will review your comments during a discussion of the actions at the September 19 meeting. As always, thank you for your expert advice.

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Reorganized Actions List

Flow Management

Dilution. *Provide additional inflow of freshwater or alter timing of inflow, especially from the San Joaquin River.*

Use 50,000 to 100,000 acre-feet of existing water supply (any surface water currently captured or groundwater currently pumped in the Central Valley) .

1. Alter timing of inflow by detaining agricultural drainage in the San Joaquin Valley.
2. Acquire water from willing sellers.
3. Acquire water by providing incentives for more efficient water management, including reservoir re-operation.
4. Acquire water through temporary land fallowing.
5. Acquire water through urban water conservation.
6. Acquire water through wastewater reclamation.

Use new water supply (groundwater not currently pumped or new storage).

7. Acquire water by treating agricultural drainage.
8. Acquire water by developing additional groundwater supply.

Acquire water by constructing new storage.

9. Upstream of the Delta.
10. Downstream of the Delta (in the Delta-Mendota Canal, the California Aqueduct, etc.).
11. In the Delta.

Delta Facilities. *Improve water circulation in the Delta.*

12. Develop improvements at the head of Old River to block fish movement into Old River, and to manage water flow and stage down Old River.
13. Implement Delta Long-term Protection Plan (includes levee O&M).

Non-Point Source Pollution Control

Agricultural Drainage.

Reduce salt and other agricultural drainage constituent loading to Delta by reducing drainage flows and/or concentrations. Highest priority are lands with costly and severe drainage problems.

14. Detain drainage water (restrict drainage discharges during periods of low Delta inflow) and control the timing of release.

Control the sources of agricultural drainage (reduce the amount, or improve the quality of applied water, or reduce loading of trace elements and agrochemicals).

15. Restrict spraying adjacent to waterways.
16. Provide incentives for additional source control, including higher water use efficiency and reduced agrochemical loading.
17. Provide a high-quality irrigation water supply.
18. Land retirement and temporary fallowing (especially during drought) through incentive programs.
19. Concentration and disposal of drainage water.

Treatment of agricultural drainage.

20. Treat in wetlands.
21. Treat 20 to 30 percent by other means (e.g. reverse osmosis) and recycle or use for flow augmentation.

Non-Point Source Pollution Control

Urban and Industrial Runoff. *Reduce urban and industrial runoff constituent loading to Delta.*

Reduce flows and/or concentrations. Highest priority are areas contributing largest amounts of pollutants of concern.

22. Detain an additional 20 to 30 percent of runoff water, time release strategically.

Control the sources of urban and industrial runoff (reduce the amount of applied water, or reduce loading of agrochemicals and other pollutants).

23. Enforce existing source control regulations.
24. Provide incentives for additional source control.
25. Better planning of new development.

Watershed Management

26. *Focus on nonpoint-source components of watershed management.* Incentives and/or coordination with ongoing watershed management programs that promote and protect Delta water quality and fisheries. Includes watershed management within the area contributing to problems or able to mitigate problems within the Delta (including areas outside of the legal Delta). *(Note that this action differs only in focus from actions 35 and 37.)*

Mine Drainage

Implement moderate on-site mine drainage remediation measures developed in site-specific studies at the Walker Mine, Malakoff Diggins, Leviathon Mine, Iron Mountain Mine, and Penn Mine sites. Control runoff from these and other high-priority sites based on current water quality objectives for pollutants.

27. Fund through pollution-credit trading (reduce loading from mines in-lieu of costly wastewater treatment plant upgrades).
28. Fund by other means.

Boat Discharges

29. Enforce regulation of boat discharges within the Delta and in water bodies tributary to the Delta.

Point Source Pollution Control

Industrial and municipal wastewater treatment

30. Treat municipal wastewater in wetlands.
31. Encourage pollution credit trading to reduce pollution in a cost-effective manner.
32. Incentives for phased conversion of municipal wastewater treatment facilities from processes producing large concentrations of disinfection byproduct precursors (DBPs).
33. Incentives for reclamation and reuse of industrial and municipal wastewater.

Watershed Management

34. *Focus on point-source components of watershed management.* Incentives and/or coordination with ongoing watershed management programs that promote and protect Delta water quality and fisheries. Includes watershed management within the area contributing to problems or able to mitigate problems within the Delta (including areas outside of the legal Delta). *(Note that this action differs only in focus from actions 27 and 37.)*

Water Supply Treatment

35. Provide incentives to upgrade drinking water treatment through filtration.

Habitat Restoration

Watershed Management

36. *Focus on nonpoint-source and habitat-restoration components of watershed management.* Incentives and/or coordination with ongoing watershed management programs that promote and protect Delta water quality and fisheries. Includes watershed management within the area contributing to problems or able to mitigate problems within the Delta (including areas outside of the legal Delta). *(Note that this action differs only in focus from actions 27 and 35.)*

Riparian Habitat Restoration

Improve riparian habitat.

37. In watersheds of participating water districts.
38. Restore riverine channel features on the Sacramento River upstream of the Delta, including tributaries.
39. Restore and enhance riparian vegetation on the Sacramento River from Verona to Colusa.
40. Restore riverine channel features on the San Joaquin River upstream of the Delta (channel configurations to deepen the San Joaquin) and on its tributaries.

Research

41. Research potential toxicity in water and sediment through toxicity testing and toxicity identification evaluations or other appropriate methods..

Parameters of Concern Likely to be Addressed by CALFED Water Quality Actions

CALFED Water Quality Actions

Parameters of Concern	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Cadmium																				
Copper																				
Mercury																				
Selenium																				
Zinc																				
Carbofuran																				
Chlorpyrifos																				
Chlordane																				
Diazinon																				
Toxaphene																				
DDT																				
PCB																				
DO																				
Ammonia																				
Salinity																				
Temperature																				
Turbidity																				
Unknown Toxicity																				

Parameters of Concern Likely to be Addressed by CALFED Water Quality Actions

CALFED Water Quality Actions

Parameters of Concern	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Cadmium																					
Copper																					
Mercury																					
Selenium																					
Zinc																					
Carbofuran																					
Chlorpyrifos																					
Chlordane																					
Diazinon																					
Toxaphene																					
DDT																					
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