

October 16, 1995

TO: CALFED Bay-Delta Program staff

FR: Gary Bobker, Bay Institute

RE: Revised problem/objective narratives; draft action categories

As requested, here are quick and dirty comments on the materials generated for the October 12 workshop. The first set of comments concerns the September 28 revision of the problem and objective narratives, contained in the October 2 mailing; the second set of comments concerns the draft "Categories of Actions for Bay-Delta Solutions" distributed at the October 12 workshop. Please contact me at (415) 721-7680 if you have any questions about this.

Revised problem/objective narratives (9/28/95)

Ecosystem quality problem statement:

Introductory narrative -- the text erroneously refers to "Delta habitats" here and elsewhere when "the Bay-Delta system" or "Delta and upper Bay habitats" is appropriate; for instance, resident species like the smelts use Suisun and San Pablo Bays for juvenile rearing habitat, not just the Delta. This shortcoming will be noted ad nauseum throughout this memo and should be corrected.

A. Important Aquatic Habitats -- change to "changes in Bay/Delta habitat."

A4. Springtime Upstream Relocation of Estuary E/N Zone Habitat -- add (d) regarding stratification effects in S.F. Bay south of the Bay Bridge.

A5. Reduced and Altered Transport Flows -- why has Delta smelt been deleted when (a) and (c) clearly apply and in fact refer to smelt?

A7. Reduced Food Web Productivity -- (g) should not be revised to read "the Delta," since critical estuarine productivity is limited not only by reductions and shifts in Delta inflow but also by reductions and shifts in Delta outflow to Suisun, San Pablo and San Francisco Bays; let "estuary" stand, or change to "the Delta and upper Bay."

A8. Excessive Concentrations of Toxic Constituents -- add "and limits survival and growth of desirable waterbird species (e.g., rails, avocets, grebes)."

B. Important Wetland Habitats -- again, change to "the Bay/Delta system."

Ecosystem quality objective statement:

A4. Increase Amount of High Quality Estuary E/N Zone Habitat -- change to "fish populations in the Bay/Delta system;" add (d) regarding South Bay stratification.

A5. Provide Sufficient Transport Flows -- change to "eggs, larvae and juvenile fish."

A7. Improve Productivity of Aquatic Food Web -- (f) should be revised to "in Bay/Delta aquatic habitats" since it definitely applies to Suisun and San Pablo Bays, and perhaps downstream as well; (g) should be left as "into the Estuary" or changed to "the Delta and upper Bay" (see comments above).

A8. Reduce Concentrations of Toxic Constituents -- (a) and (b) should read "in Bay/Delta water and sediments," since contamination and bioaccumulation is a major concern in the problem area downstream of the Delta.

B1. Increase the Amount of High Quality Brackish Tidal Marsh Habitat -- change to "native and desirable fish and wildlife species in the Delta and upper Bay," since these marshes support both aquatic and terrestrial species, and since lack of brackish tidal marsh is a major problem for Suisun and San Pablo Bays.

Categories of Actions for Bay-Delta Solutions (10/12/95)

Action Categories to Restore Habitat:

Restoration of Delta Habitat -- at least two of the subcategories here, Shallow Water (Tidal) and Wetland, apply to the upper Bay as well as the Delta. Either change to "Restoration of Bay/Delta Habitat" and reflect change in the narratives or add new category "Restoration of Downstream Habitat."

**Action Categories to Reduce Impacts of Diversions
and**

Action Categories to Reduce Entrainment Effects of Diversions:

These two category groupings are neither adequate enough nor appropriate to capture the need to provide the required salinity/flow regimes which ensure that necessary salinity conditions are attained in existing and new habitat areas (shallow water tidal, wetland, etc), that the contribution of riverine loading to productivity is increased, and so on. The need to do this is one reason why we have X2 requirements instead of simply export criteria. Both direct salinity/flow requirements and flow augmentation programs will need to be established if new habitats are created or if diversion capacities are altered. Therefore, a new

category grouping needs to be added, namely "Action Categories to Provide Necessary Salinity/Flow Conditions." This grouping would include Delta Inflow/Outflow Requirements, and Acquisition of Long-Term Water Supplies for Fish and Wildlife. Specific linkages would be recognized to Delta Inflow/Outflow/Export Management, Fish Passage and Migration Improvements, and Increased Diversion Capacity.

Delta Inflow/Outflow/Export Management -- 1) this category is not a substitute for the Salinity/Flows grouping proposed above, since it is more focused on responding with adaptive management measures to short-term fishery or water quality situations and not with providing the overall flow and salinity conditions under which most estuarine species will thrive (especially if changes to storage and diversion capacity also occur); 2) future changes undertaken in this category could also include development of export criteria that are more sensitive to hydrological and biological conditions in the estuary (i.e., criteria calculated on a monthly basis with linkages to other indicators or variables).

Increased Diversion Capacity -- The constraints should also include the need to establish additional water quality standards and other requirements for flow and salinity in order to ensure that estuarine needs are met during periods of high flow. Existing flow and salinity requirements are based on existing diversion capacity, and it is imperative that we avoid the assumption that all the water flowing from the Delta in excess of these existing requirements is "excess" to the ecosystem. Increased diversion during wet periods must not result in reduction of estuarine habitat in San Pablo Bay or South Bay, for instance, and must be sensitive to patterns of interannual variability, i.e., be responsive to conditions of previous years.

Action Categories for Managing Water Quality:

Management of Agricultural Drainage -- 1) This section should be rewritten to emphasize that source reduction, consistent with the SJVDF and other programs, is the most effective approach to managing ag drainage; 2) Receiving water impacts are not necessarily reduced by using high flows as dilution water. Use of the assimilative capacity of receiving waters does not adequately factor in the bioaccumulative properties and persistence in the environment of selenium and other trace elements. Discussion of use of dilution flows should be deleted or rewritten to reflect this limitation.