

DRINKING WATER QUALITY PROGRAM

YEAR 2000/2001 PRIORITY ACTIONS

Year 2000 and 2001 Priority Actions

Drinking Water Assessments - 36

1. General Description of the Action

Assess sources and magnitudes of loadings of constituents of concern for drinking water and evaluate potential for correction.

Total Organic Carbon (TOC) is a water quality constituent that is a precursor to disinfection byproducts which are human health hazards. TOC originates from many sources including vegetation in natural channels, algae, decomposing peat soils, agricultural drain material, and treated sewage effluent. These sources and more are present in the Delta. The relative contributions of each source to the TOC levels in export pumps is not well understood.

Nutrients in the delta contribute to algae production which produces more TOC upon degradation.

High salinity in drinking water affects water management. It reduces the utility of the water to be recycled, blended or transferred, and it affects useable agricultural water supply. The origin of the salt in the export pumps is largely attributed to the ocean. Full assessment of the methods salt is introduced and reduction of salinity are warranted.

The origination of pathogens include sewage treatment plants, water craft, confined animal facilities, and urban stormwater. Determining relative contributions and implementing programs to reduce pathogen loading are warranted.

Bromide is a salt constituent that commonly originates in ocean waters that intrude on the delta. Sea water is picked up at the diversion pumps in the south delta and delivered to the San Joaquin Valley. Other sources of bromide may also contribute to south delta diversions. Sources of bromide and control options are proposed to be studied.

Both water users and ecosystem would benefit from control of bromide.

2. Cost Estimates

Monitoring studies would begin in some critical areas at a cost of about \$0.5 million for the first year. As different issues are studied in greater depth, the budget should be increased to \$1 million per year for a several years.

CALFED Staff for about 1/2 time would be needed to oversee priorities in studies of different areas. Additional CALFED time may be used if modeling is needed.

3. Program Administration and Governance

The CALFED Drinking Water Quality Program should oversee the priorities of individual studies and coordination study efforts. The Drinking Water Constituents Work Group (from the original Water Quality Technical Group) would develop and recommend studies and actions for the Delta Drinking Water Council's consideration.

Study contracting services should go to any or each of the following agencies: DWR, CVRWQCB, DHS or to USGS.

4. Program Coordination

The Department of Water Resources has the research staff to conduct or contract for studies and other pilot scale projects. The Regional Board, DHS and the USGS also has scientists for studies and appropriate contract offices.

Facilities for sampling and analysis exist at DWR, Regional Board, and the USGS. The DHS expertise can be used for health effects, risk assessment and public health regulations.

5. Schedule

Assessment structure should be designed by mid to late 1999 and studies based on priority structure could begin by January 2000.

Year 2000 and 2001 Priority Actions

Veale Tract Drain Relocation - 6

1. General Description of the Action

Study environmental impacts of relocating Veale Tract agricultural drains and contribute to relocation costs.

The goal is to minimize impacts of surrounding agricultural land on the drinking water intake of CCWD and biological resources.

The Rock Slough intake to the Contra Costa Canal is located in the west-central Delta in the vicinity of Knightsen in eastern Contra Costa County. The land surrounding Rock Slough is primarily agricultural. The few residences scattered in the vicinity of the intake are ancillary to agricultural operations. Water levels in Rock Slough are subject to tidal variations, and a typical daily variation is about 3.5 feet. Peaks in Rock Slough salinity are typically caused by seawater intrusion from the San Francisco Bay during periods of low Delta outflow (typically, summer and fall), or by agricultural drainage discharges from the Delta and San Joaquin River during leaching and heavy storms (typically during winters of normal and wet years).

A number of agricultural drainages discharge into Rock Slough and Contra Costa Canal. Veale Tract, an area of approximately 1,100 acres, is the largest single land area draining to Rock Slough. Drainage from Veale Tract has been suspected to be the major cause of salinity increases at the District's intake during wet winters. For example, chloride at Pumping Plant No.1 was over 100 mg/L in February and March of 1996 when the chloride level at the junction of Old River and Rock Slough was under 50 mg/L. Agricultural drainage during wet winters can lead to significant increases in the concentrations of dissolved solids, total organic carbon (TOC) and, possibly, pathogens in CCWD's drinking water supply from Rock Slough and at other urban drinking water intakes in the Delta.

2. Cost Estimates

Mobilization costs, staff costs, and laboratory costs to perform sampling and generate a conclusive summary of existing conditions and feasibility of treatment of relocation to alternative locations will cost approximately \$1.0 million, which is to be expended in FY 2000. Contribution to the approximately \$ 4.0 million relocation project would need to be decided.

CALFED staff would be involved in program development and the results of the study. This should be of limited time, approximately one month of staff time for FY 2000.

3. Program Administration and Governance

The CALFED Drinking Water Quality Program should oversee the scope of the project. DWR should oversee evaluation of existing conditions and alternative impacts. The US Bureau of Reclamation should be the federal contract authority if necessary.

4. Program Coordination

Detailed monitoring is already being carried out by the Department of Water Resources (DWR), the Bureau of Reclamation (Bureau), and CCWD at several locations along Rock Slough and Contra Costa Canal. Sampled parameters include EC, chlorides, metals, pesticides, pathogens, and other constituents as part of the D1485 compliance monitoring and the Municipal Water Quality Investigation Program. However, a lack of simultaneous measurements along the length of the two channels does not allow the source(s) of degradation to be identified conclusively. CCWD would be the CEQA lead agency for preparation of the EIR.

5. Schedule

To pinpoint and quantify the sources of salt and other contaminants into Rock Slough and the Canal, simultaneous measurements along a number of locations (up to twelve) between CCWD Pumping Plant No. 1 and the junction with Old River are planned for the late fall/winter of 1999-2000.

Sampling alternative drain locations will be done at various times throughout the characterization process.

Year 2000 and 2001 Priority Actions

RD 800 Drain - management, relocation and/or treatment

1. General Description of the Action

Drain discharges from Reclamation District 800 (RD 800) consist of commercial, urban stormwater, urban wastewater, and agricultural discharges. Each of these separate sources contributes, to one degree or another, constituents that can impair the beneficial uses of the delta water.

The goal in this proposal is to identify feasible methods by which one could minimize potentially adverse impacts of these discharges through management, relocation of discharges, and/or treatment. Minimization of these constituents in Bay-Delta water reduces the need for additional treatment at drinking water treatment plants. The proximity of the RD 800 drains to the diversion pumps increases the likelihood of constituents from RD 800 of getting to the diversion pumps.

2. Cost Estimates

Approximately \$1.0 million dollars are needed the first year for the study. Treatment and relocation studies/efforts could increase the cost to approximately \$6.0 million in 2001. Cost sharing might be possible through various programs if funds are available.

CALFED staff requirements would amount to one staff person for about a few months per year to analyze data and attend related meetings. Limited supervisory time is necessary for review of staff persons work.

3. Program Administration and Governance

The CALFED Drinking Water Quality Program should oversee the coordination of agencies and approval of funds spent. **Contracts for sampling should be let through the Department of Water Resources. An alternate federal contract authority could be the USBR.**

4. Program Coordination

This program involves sampling not currently performed and land use studies. The Department of Water Resources or the Regional Water Board would be able to do the sampling.

5. Schedule

This study could begin as soon as funds are identified.