CALFED
Bay-Delta Public Advisory Committee

Drinking Water Subcommittee

Greg Gartrell, Chair

SWRCB Periodic Review Presentation
January 2005

Water Quality Control Plan

Recognition of:

- CALFED Water quality program
- CALFED drinking water quality targets
  - 50 µg/L bromide and 3 mg/L organic carbon OR
  - The equivalent level of public health protection through cost-effective source improvement and treatment advances
- Central Valley Drinking Water Policy development

CALFED Drinking Water Quality Program

Implementing Agencies:

US Environmental Protection Agency

CA Department of Health Services

State Water Resources Control Board

Central Valley Regional Water Quality Control Board

Cooperating Agencies:

CA Department of Water Resources

US Bureau of Reclamation

US Geological Survey

CALFED Water Quality Program

- Coordination among agencies with jurisdiction on source water protection and drinking water regulation
- Performance-based implementation
- Science
- Transparent Process (Substantial Public Outreach)

CALFED Water Quality Goals

Continuous improvement of Delta water quality for all beneficial uses

Strive for Drinking Water that is:

- Protective of Public Health
- Acceptable to Consumers
- Protected from source to tap

Focus on Drinking Water Challenges:

- Source Protection
- Treatment and treatment by-products

Water Quality Program Plan

Drinking Water Quality Targets

"CALFED Agencies' target for providing safe, reliable, and affordable drinking water in a cost effective way, is to achieve either: (a) average concentrations at Clifton Court Forebay and other southern and central Delta drinking water intakes of *50 µg/L bromide and 3.0 mg/L total organic carbon*, or (b) *an equivalent level of public health protection* using a cost-effective combination of alternative source waters, source control, and treatment technologies." (emphasis added)

- CALFED ROD preferred program alternative, pg. 65.

CALFED Drinking Water Quality Targets

Result of an extensive stakeholder process as part of the development of the CALFED Program (Framework, PEIS/EIR, Record of Decision and Certification)

- **Owen, D.M., P.A. Daniel, and R.S. Summers. 1998. Bay-Delta Water Quality Evaluation Draft Final Report. California Urban Water Agencies.**

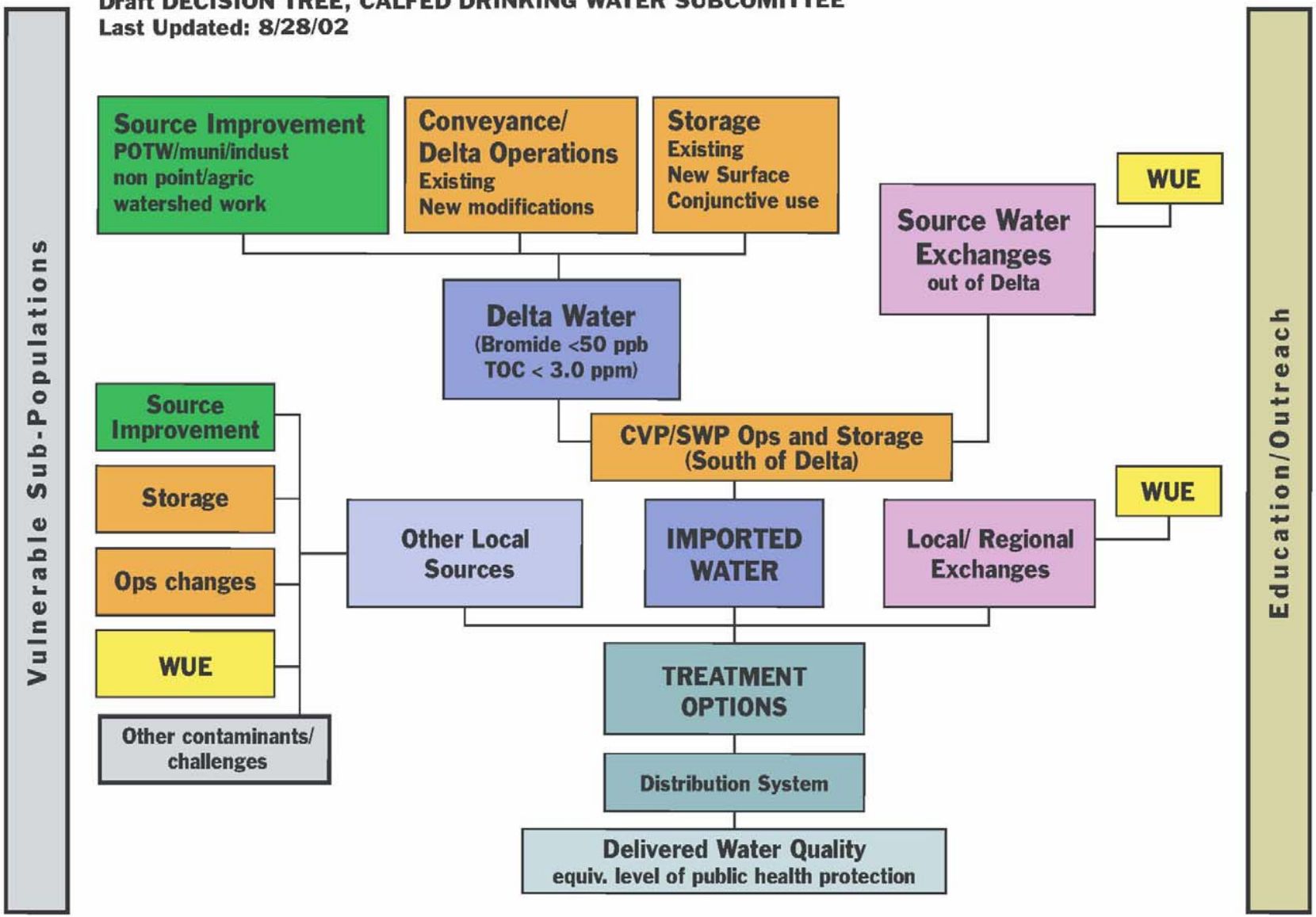
- **Amy, G., R. Bull, K. Kerri, S. Regli, and P. Singer. 1998. Bay-Delta Drinking Water Quality: Bromide Ion (Br-) and Formation of Brominated Disinfection By-Products (DBPs). Prepared for: CALFED Bay-Delta Program.**

Multiple Barrier Principle

Source Protection

Treatment Effectiveness

Distribution Integrity


EQUIVALENT LEVEL OF PUBLIC HEALTH PROTECTION
Draft DECISION TREE, CALFED DRINKING WATER SUBCOMITTEE
Last Updated: 8/28/02
Vulnerable Sub-Populations
Source Improvement
POTW/muni/indust
non point/agric
watershed work
Conveyance/
Delta Operations
Existing
New modifications
Storage
Existing
New Surface
Conjunctive use
WUE
Source Water
Exchanges
out of Delta
Delta Water
(Bromide <50 ppb
TOC < 3.0 ppm)
Source
Improvement
Storage
Ops changes
WUE
Other contaminants/
challenges
CVP/SWP Ops and Storage
(South of Delta)
Other Local
Sources
IMPORTED
WATER
WUE
Local/ Regional
Exchanges
TREATMENT
OPTIONS
Distribution System
Delivered Water Quality
equiv. level of public health protection
Education/Outreach

Multiple Barrier Approach and ELPH

- Regional Drinking Water Quality Plans
  - Local and Regional opportunities
- Source Water Improvement Projects
- Conveyance through the Delta
  - Franks Tract Feasibility Study
  - Delta Cross Channel/Through Delta Facility Studies
- Treatment Technology Demonstration Projects
- Integrated Programs
  - San Joaquin River Water Quality Management Program

Central Valley Drinking Water Policy

The responsibility for drinking water protection in the Bay-Delta ecosystem is shared by the State Department of Health Services (DHS), CalEPA (including the State Water Resources Control Board and the CVRWQCB) and DWR, with EPA providing funding and technical assistance. In particular, the CVRWQCB, with support from the CALFED agencies and DHS, is currently developing a comprehensive drinking water policy for Delta and upstream tributaries. (ROD, p. 66)

http://www.swrcb.ca.gov/rwqcb5/available_documents/dw-policy/

CALFED ROD Milestones – Central Valley Drinking Water Policy

- CVRWQCB, with support from the CALFED Agencies and DHS, will establish a comprehensive State drinking water policy for Delta and upstream tributaries by the end of 2004. (ROD p. 67)

- Consistent with the above policy, CVRWQCB, with support from DWR and DHS, will begin implementation of appropriate source control measures (e.g., advanced wastewater treatment, local drainage management practices) by the end of 2006. (ROD p. 67)

Policy Development Process

- Technical Workplan
  - Water quality monitoring & database development
  - Conceptual models for drinking water constituents
  - Pollutant load evaluations
  - Range of water quality goals and policy options
  - Potential control alternatives
- July 2004 Regional Board Resolution
- Basin Plan Amendment

Central Valley Drinking Water Policy Workgroup

- Ongoing since 2002
- Includes range of stakeholders
- Developed technical work plan (Jan 2003)
- Resources
  - SWRCB (CALFED Prop 50) - $970K
  - CUWA/SRCSD MOU - $150K
  - US EPA - $150K
  - Sacramento River Watershed Program - $30K

RWQCB Adoption of Resolution
(July 2004)

- Provides regulatory setting, need for Regional Board effort, CALFED goals
- Affirms Regional Board's commitment to policy development
- Acknowledges challenges and limitations of effort

R5-2004-0091

Priority Constituents Identified

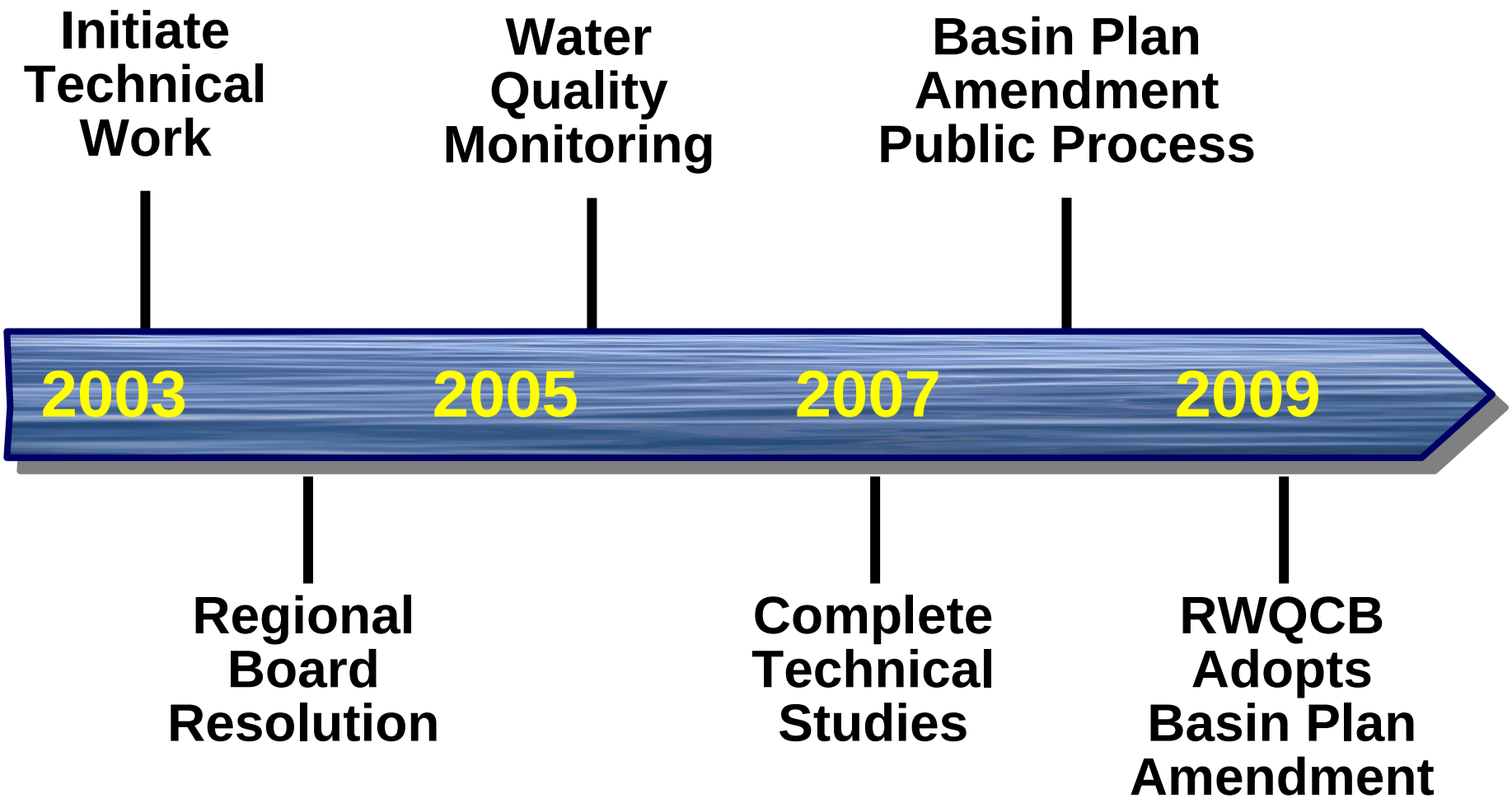
Disinfection By-Product Precursors

- Dissolved Minerals (Total Dissolved Solids, Chloride, Bromide)
- Organic Carbon
- Pathogens & Indicator Organisms

Taste & Odor Causing substances

- Nutrients

Drinking Water Policy Schedule



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Consensus on ELPH

- Bromide,TOC and salinity targets are a surrogate indicator of water quality
- Public health baseline risk should serve as the benchmark
- Allow flexibility and seek cost-effective, robust solutions with multiple benefits
- CVRWQCB Drinking Water Policy as element of ELPH Strategy
- Identify Best Management Practices and Best Available Technologies for Source Improvements
- Use adaptive management

Subcommittee Recommendation

The Water Quality Control Plan should recognize and include discussion on:

- the multiple barrier approach
- Ongoing CALFED Process
- CALFED target:
  - 50 µg/l bromide and 3 mg/l TOC or the equivalent level of public health protection through cost-effective source improvement and treatment
- The development of the Drinking Water Policy