DWQP Strategic Plan

Introduction

In 2002, the BDPAC Drinking Water Subcommittee (DWS) developed the equivalent level of public health protection (ELPH) decision tree diagram and accompanying conceptual framework document, which describe the integrated strategy for drinking water quality improvement from the source to the tap. The ELPH conceptual framework describes a variety of tools that can be employed to achieve the ELPH goal.

The DWQP Strategic Plan currently being developed by the DWS is intended to pick up where the ELPH conceptual framework document left off and identify DWQP priorities and mechanisms for implementation. The DWQP strategic plan diagram, developed by the DWS in February 2004, organizes the DWQP actions into five broad categories: source improvement, treatment technology, regional ELPH plans, science and improved understanding, and institutional and program management. The diagram illustrates the scope of actions that would be implemented by the DWQP and implementing agencies. The diagram further illustrates the types of actions implemented at the regional level, and the coordination between the DWQP and the regions that is necessary to achieve the ELPH goal.

The DWQP Strategic Plan Workgroup has developed the following set of problem statements and DWQP actions that address each of the five strategic plan categories. Each of the problem statements and actions are tied to the appropriate ELPH tool. The last page in this document is an example action fact sheet, which the workgroup proposes to develop for each action following input from the DWS.

Draft Problem Statements and Actions

Source Improvement

Problem Statement

Delta watershed source water is not of sufficient quality to meet future and, in some cases, current drinking water needs, and is at risk of further water quality degradation in the future.

Delta Water

Actions

Source Improvement

- Support the development of State and Regional Board policies that would provide improved source water quality protection for drinking water supplies.

Source Improvement

- Conduct studies and implement projects to manage agricultural drainage and reduce the discharge of drinking water constituents of concern to the Delta watershed from agricultural lands.

Source Improvement

- Develop and implement projects to reduce salinity discharges to the San Joaquin River from agricultural lands and managed wetlands.

Source Improvement

- Conduct studies and implement projects to reduce loadings of drinking water constituents of concern to the Delta watershed from urban runoff and wastewater discharges.

Source Improvement

- Conduct studies and implement projects to reduce loadings of drinking water constituents of concern from recreational activities.

Problem Statement

Seasonally reduced Delta outflow combined with tidal influences and watershed diversions increase salinity and bromide concentrations at the drinking water diversion points within the Delta.

Delta Water

Conveyance/ Delta Ops

Storage

Actions

- Work with the CALFED Conveyance Program to study and implement Delta conveyance and operations improvements that will improve drinking water quality.
- Work with the CALFED Storage Program to study and implement additional storage operated to provide drinking water quality improvement.

Problem Statement

The quality of water in conveyance and storage facilities downstream of the Delta may be degraded by the introduction of drinking water constituents of concern from the immediate watersheds.

CVP/SWP Ops

CVP/SWP Ops & Storage

Source Improvement

Actions

- Conduct studies and implement structural improvements to protect aqueduct and reservoir water quality.
- Conduct studies and implement projects to reduce loadings of drinking water constituents of concern to the State Water Project facilities and other water supply facilities.

Problem Statement

Water diverted from the Delta is not of sufficient quality to meet future and, in some cases, current drinking water needs.

Imported Water

WQ Exchanges

WUE

Actions

- Conduct feasibility and planning studies for water management programs, such as water quality exchanges and water supply blending, to improve drinking water quality.

Problem Statement

In some CALFED regions, local surface water and groundwater supplies are not of sufficient quality to meet drinking water needs, resulting in more demand for Delta water. Groundwater quality may become an environmental justice issue where contamination disproportionately impacts disadvantaged communities.

Local Sources

Other contaminants/ challenges

Actions

- Support local efforts to evaluate groundwater quality problems and implement groundwater quality improvement projects.
- Support local efforts to implement source water protection projects.

Source Improvement **WUE** **Ops Changes**

Treatment Technology

Problem Statement

Treatment of Delta water requires advanced or alternative technologies to meet existing or future drinking water regulations.

Treatment Options

Actions

- Demonstrate the ability of advanced/alternative treatment technologies to treat Delta water.
- Use assessment of current treatment methods, advances in treatment technology, and the changing regulatory environment to guide treatment technology investment decisions.

Treatment Options

Regional ELPH Plans

Problem Statement

The lack of understanding of the balance of local, regional and statewide actions that are needed to achieve the CALFED ELPH goal delays DWQP implementation.

Delivered WQ

Actions

- Develop a framework for Regional ELPH Planning.
- Demonstrate the feasibility of Regional Planning as a tool to implement the DWQP through grants for regional planning projects.
- Integrate Regional Plans into the management of the DWQP.

Delivered WQ

Science and Improved Understanding

Problem Statement

The Drinking Water Quality Program lacks sufficient information on public health risk and drinking water quality concerns, which is needed to inform management decisions.

Delivered WQ

Delta Water

Imported Water

Delivered WQ

Source Improvement

Actions

- Develop and implement a drinking water quality monitoring and assessment program through cost-effective coordination and enhancement of existing monitoring programs and providing public access to information.
- Develop and test model public health indices to assess level of public health protection.
- Conduct focused studies to improve the scientific understanding of sources and loads of drinking water constituents of concern.
- Convene an Independent Science Panel to address drinking water quality problems and solutions.

Institutional and Program Management

Problem Statement

Implementation of the Drinking Water Quality Program requires improved integration and coordination among the implementing agencies and the CBDA. Coordination also needs to be improved with stakeholders and other CBDA Programs.

Delivered WQ

Source Improvement

Treatment Options

Delivered WQ

Vulnerable Sub-Pop

Education/ Outreach

Actions

- Improve integration of the CWA, SDWA and Porter-Cologne Act tools and requirements into the CALFED Drinking Water Quality Program at the program- and project-level.
- Improve administrative accountability, reporting, communication and collaboration between staff and management of the state and federal CALFED implementing agencies to leverage funding and staff resources within the CALFED Drinking Water Quality Program.
- Increase the participation of stakeholders within the CALFED Drinking Water Quality Program, especially from currently under-represented groups such as environmental justice communities.
- Assess strategic planning efforts within the CALFED Drinking Water Quality Program to-date and identify new efforts to move the program forward.

Draft Fact Sheet

Strategic Category: Treatment Technology

Action: Demonstrate the ability of advanced/alternative treatment technologies to treat Delta water.

Description/Background: Many utilities treating Delta watershed waters are currently employing or on schedule to employ some level of advanced/alternative treatment technology, such as disinfectant ozone, in order to meet current drinking water regulations. Future water demands and future drinking water regulations are the driving factors in determining what level of advanced treatment is needed. Advanced/alternative technologies are developed and tested outside of the CALFED arena, but still need to be demonstrated as able to effectively treat Delta waters. The goal of this action is to determine the effectiveness of identified technologies on Delta waters or mixes of Delta waters, with studies done for groups of agencies within a region.

Status: CALFED has funded a number of advanced treatment studies, ranging from the removal of precursors of disinfection by-products, alternative disinfectants to reduce disinfection by-products, to alternative treatment processes to remove disinfection by-products. One precursor study funded is on the North Bay Aqueduct, focusing on the removal of total organic carbon through selective ion exchange. A large Bay Area study was funded by the EPA to study a range of alternative disinfectants and alternative treatment processes, and a MWD study was funded to study ultraviolet light technology. One study of a process to remove bromate with carbon dioxide addition will reach a successful conclusion in the near future.

Science/Knowledge Gaps: What is the most cost-effective balance of source improvement with treatment technology? Will new technologies result in new disinfection by-products?

Role of CBDA/Implementing Agencies: Encourage local agencies to regionally evaluate treatment needs, and fund demonstration projects where appropriate.

Potential Funding Source(s): Prop 50

Next Steps:
1. Disseminate the products of the funded studies to agencies treating Delta watershed waters and solicit feedback.
2. Use an expert panel to determine additional needs for this action.