

# **MUNICIPAL WATER QUALITY PROGRAM BRANCH FIVE-YEAR STRATEGIC PLAN**

July 1, 2012 through June 30, 2017

The Municipal Water Quality Program (MWQP) Branch consists of four sections: Municipal Water Quality Investigations (MWQI), Water Quality Special Studies, Field Support, and Quality Assurance/Quality Control (QA/QC) sections. Three of these sections, the MWQI, Water Quality Special Studies, and Field Support sections, constitute the MWQI Program funded by the State Water Project Contractors Authority MWQI Specific Project Committee (MWQI-SPC) with an annual budget of \$3.1 million. The QA/QC Section is funded by SWP funds with an annual budget of \$607,000. The five-year strategic plan for the MWQI Program covers the sections included in the MWQI Program and the QA/QC Section.

## **MWQP BRANCH MISSION STATEMENT**

To enhance the Department's mission of managing the water resources of California by supporting the efforts of the Department's Divisions and outside agencies to benefit the State's people through water quality monitoring for drinking water purposes in an economic, reliable and environmentally sound manner while taking steps to protect, restore, enhance, and sustain the Delta's natural environments.

## **MWQI PROGRAM MISSION STATEMENT**

The mission of the MWQI Program is to: a) support the effective and efficient use of the Sacramento-San Joaquin Delta (Delta) and the State Water Project (SWP) as a source water supply for municipal purposes through monitoring, forecasting, and reporting water quality; b) provide early warning of changing conditions in source water quality used for municipal purposes; c) provide data and knowledge based support for operational decision-making on the SWP; d) conduct scientific studies of drinking water importance; and e) provide scientific support to DWR, the State Water Project Contractors Authority MWQI-SPC, and other governmental entities.

## **OBJECTIVES FOR THE FIVE-YEAR PLAN**

### **ORGANIZATIONAL STRUCTURE, COORDINATION, AND FUNDING**

- Work within DWR to develop an organizational structure that ensures staffing requirements for the MWQI Program are met on a timely basis through the retention of highly qualified personnel that have the expertise to meet MWQI Program objectives.
- Continue developing and implementing the Real Time Data and Forecasting-Comprehensive Program (RTDF-CP) which encompasses tasks identified by the

# **MUNICIPAL WATER QUALITY PROGRAM BRANCH FIVE-YEAR STRATEGIC PLAN**

July 1, 2012 through June 30, 2017

MWQI-SPC, MWQP staff, and DWR management, as high priority and achievable through cooperative effort.

- Work with the MWQI-SPC to identify tasks that can most efficiently be performed through cooperative agreement, and participate in cooperative implementation of such tasks. These tasks will be described in detail and planned for on an annual fiscal year basis in the MWQP Workplan.
- Work with the MWQI-SPC to identify funding needs that will enable the MWQP to be adequately implemented, and to participate in acquiring, allocating, and accounting for, funds to accomplish needed work as stated in the annual work plans.
- Coordinate and collaborate MWQP activities with those of other DWR Divisions under the RTDF-CP to enhance productivity, minimize duplication and overlap, and ensure effective coordination and communication to enable joint implementation of water quality assessment and forecasting activities affecting the Delta and the SWP.

## **DEVELOPMENT AND REFINEMENT OF A SWP “EARLY WARNING SYSTEM” FOR WATER QUALITY CONCERNS**

- As they pertain to the responsibilities of the MWQP Branch, and in conjunction with the Division of Operations and Maintenance (O&M), and as one of the primary objectives of the RTDF-CP, develop and refine a “SWP Water Quality Early Warning” system that will alert MWQI Program participants of likely drinking water quality problems in a timely manner to enable preventative or corrective actions to be taken to avoid consumer impacts.
- Work collaboratively with other DWR Divisions to develop efficient communications among DWR Divisions and MWQI Program participants to ensure early warning information is transmitted, received, and acted upon as they pertain to the responsibilities of the MWQP Branch.
- Tasks identified under the “Water Quality Monitoring”, “Information Management and Dissemination”, “Water Quality Forecasting”, “Scientific Support” and “Emergency Response” program elements support the development of this early warning system as they pertain to the responsibilities of the MWQP Branch.

## **WATER QUALITY MONITORING AND EMERGING CONCERNS**

- Monitor water quality parameters relevant to drinking water at key locations in the Delta through periodic collection of discrete samples and their analysis by field and laboratory instruments, according to accepted methods.
- Monitor upcoming plans for habitat restorations required under current and future Biological Opinions and any projects developed as part of the proposed Bay

# MUNICIPAL WATER QUALITY PROGRAM BRANCH

## FIVE-YEAR STRATEGIC PLAN

July 1, 2012 through June 30, 2017

Delta Comprehensive Plan. Develop and implement all necessary monitoring programs to establish baseline information prior to the construction of any restoration projects, during construction of the projects and during the implementation of those projects.

- Maintain existing *in-situ* multi-parameter water quality monitoring stations on the Sacramento River at Hood, H.O. Banks Delta Pumping Plant Headworks, Jones Pumping Plant, San Joaquin River near Vernalis, and on inlet to Gianelli Pump/Generation Plant.
- As part of RTDF-CP work cooperatively with the MWQI-SPC, other DWR units, and other agencies, to identify additional key locations in the Delta, its tributaries, and the SWP where additional *in-situ* water quality assessment equipment is needed. Work cooperatively with others to acquire needed permits, plan for and perform construction, acquire monitoring and communications equipment, bring new stations into operation, and assure the quality of data produced.
- Perform water quality assessments and evaluations to identify drinking water quality consequences of physical or operational changes in the Delta, its watersheds, and the SWP.
- With participation of the MWQI-SPC, other MWQI Program participants, and DWR modelers, produce annual re-evaluations of the discrete and *in-situ* monitoring programs to identify and recommend needed changes to eliminate critical data gaps, provide valid data for the DSM2 model, improve program efficiency and minimize monitoring costs.
- Ensure timely and appropriate QA/QC of water quality and related information produced by the MWQI Program. Take timely and effective action to identify and correct QA/QC problems. Include equipment/instrument maintenance and calibration as part of the annual QA/QC process.
- As part of the RTDF-CP work with QA/QC Section staff to standardize the QA/QC procedures, especially for new stations.
- Continue to explore new and improved technologies for acquiring real time water quality data. Utilize new technology where possible to minimize monitoring costs and data gaps and to move towards standardization of monitoring methodology.
- Work collaboratively with O&M to plan for emerging constituents of concern such as “Taste and Odor” issues that have been increasing with time. Respond to these emerging concerns in a timely manner as part of the RTDF-CP.
- As part of the RTDF-CP, work collaboratively with O&M to develop a comprehensive program of monitoring, early warning, and management for algal growths in the Delta and SWP having the potential for causing taste and odor in treated drinking water taken through the SWP. Governance of this program will be through a steering committee composed of DWR staff from relevant organizational units, and MWQI-SPC representatives of affected agencies.

# MUNICIPAL WATER QUALITY PROGRAM BRANCH FIVE-YEAR STRATEGIC PLAN

July 1, 2012 through June 30, 2017

## INFORMATION MANAGEMENT AND DISSEMINATION

- Provide timely analysis, interpretation, and dissemination of monitoring information to MWQI Program participants and other identified stakeholders on key constituents of concern. Analyze and present monitoring results to program participants and in public proceedings.
- Continue to develop and refine capability for MWQI Program participants to rapidly acquire real-time and other drinking water quality data and supporting information through the internet in user-friendly formats.
- Produce annual data and/or interpretative reports documenting program findings, as shall be determined by the MWQI Technical Advisory Committee (TAC).
- Continue production of weekly water quality reports, with continuing improvements, as may be directed by the MWQI TAC.
- Provide technical assistance to MWQI Program participants in acquiring needed water quality data and supporting information.
- Research and develop new and innovative means of communicating MWQI Program work products to program participants and other interested parties.
- Encourage and promote actions by regulatory agencies necessary to ensure a high-quality and reliable water supply by disseminating information derived from the MWQI Program.
- Advocate drinking water quality protection by tracking new projects in the Central Valley, including operational planning activities, by alerting MWQI Program participants to projects having the potential to affect the quality of drinking water supplies taken through the Delta, reviewing and commenting on environmental documents, and participating in public hearings and workshops.
- Maintain awareness of findings from international, national, and regional research activities that have a bearing on the ability to meet future drinking water regulations, factor these findings into analyses of Delta water quality conditions and facilities options as appropriate, and communicate these findings to MWQI Program participants.

## WATER QUALITY FORECASTING

- Produce timely water quality forecasts for MWQI-SPC members. MWQI Program staff will support DWR modeling efforts by providing water quality expertise needed to improve Delta models, coordinating closely with modelers to collect data to support model development and to improve the ability to interpret and apply model outputs.
- The Bay-Delta Office (BDO) will continue development of the WARMF models for the Delta watersheds. The Operations Control Office (OCO) will be responsible for modeling water quality forecasts.

# MUNICIPAL WATER QUALITY PROGRAM BRANCH FIVE-YEAR STRATEGIC PLAN

July 1, 2012 through June 30, 2017

- MWQI staff should endeavor to become experts at interpreting how Delta watersheds influence Delta drinking water quality. We encourage staff to develop a scientific understanding of the Delta watersheds by becoming proficient with the Watershed Analysis Risk Management Framework (WARMF) model as this will help to develop such an expertise.

## SCIENTIFIC SUPPORT STUDIES

- In cooperation with MWQI Program participants and as part of the RTDF-CP, identify the need for, and implement detailed studies to examine specific phenomena that affect, or may in the future affect, Delta drinking water quality. These studies may be generally classified as follows:
  - Detailed evaluations of problem areas or conditions identified as a result of monitoring activities.
  - Evaluations of drinking water quality consequences of proposed physical or operational modifications in the Delta and its tributaries, its inflows, internal flow patterns, or outflows.
  - Prediction of the drinking water quality consequences of population growth patterns.
  - Detailed evaluations of natural processes that have the potential to affect the quality of Delta drinking water sources.

Detailed evaluations of point and non-point pollutant discharges to the Delta (including tributaries to the Delta). Studies will be selected for implementation based on their significance to the quality of drinking water supplies taken through the Delta, likelihood of being able to apply the information to attain higher quality of Delta drinking water sources, cost and availability of MWQI staff resources. Outside expertise will be enlisted where necessary and feasible to conduct or collaborate on scientific studies.

## EMERGENCY RESPONSE

- Identify, to the extent possible, ahead of time specific concerns regarding these events and what constituents would need to be assessed.
- Develop scenarios for different emergency events using models to determine which areas in the Delta pose most significant drinking water quality issues.
- Develop emergency response plans ahead of time (follow SIMS template), identifying funding and staffing needs, all participating groups and their roles.
- Work with other DWR units (i.e. O&M and Flood Management) to develop emergency response plans.
- Encourage DWR Executive to treat these events similar to flood events.

# **MUNICIPAL WATER QUALITY PROGRAM BRANCH FIVE-YEAR STRATEGIC PLAN**

July 1, 2012 through June 30, 2017

- Perform water quality assessments and evaluations in response to emergency situations, such as Delta levee breaks, supplying timely water quality information to emergency decision makers and public health authorities.
- During emergency circumstances, work cooperatively with emergency managers and rapidly communicate results of emergency water quality assessments the MWQI Program may be tasked to perform.

## **SANITARY SURVEY**

- Follow-up and resolve items identified in the Action Plan for the Watershed Sanitary Survey, 2011 Update.
- Coordinate efforts of the State Water Resources Control Board Division of Drinking Water, MWQI staff and the MWQI-SPC to implement procedures to produce annual Sanitary Survey reports that would provide a more manageable and productive means of meeting the intent of the Sanitary Survey regulatory requirements. The annual Sanitary Survey reports would be combined into a 5-year update as required in the regulations.