

# Municipal Water Quality Investigations Program

Division of Environmental Services, DWR



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# MWQI Program - Mission

- Support the effective and efficient use of the State Water Project (SWP) as a municipal water supply source through monitoring, forecasting, and reporting;
- Provide early warning of changing conditions in source water quality used for municipal purposes;
- Provide data and knowledge based support for operational decision-making on the SWP;
- Conduct scientific studies of drinking water importance; and
- Provide scientific support to DWR, the State Water Project Contractors, and other governmental entities.

# MWQI Program - History

- Early 1980's federal regulations for controlling THMs in drinking water established by U.S. EPA
- Independent scientific advisory council appointed by DWR to make recommendations for monitoring and assessing drinking water quality in the Delta
- MWQI Program established in 1982\*

\*known as the Interagency Delta Health Aspects Monitoring Program before 1990

# MWQI Program – Structure

## ■ Voluntarily Funded by 15 SWC Agencies and CCWD

- Alameda County Flood Control
- Mojave Water Agency
- Napa County Flood Control and Water Conservation
- San Bernadino Valley
- San Gorgonio Pass Water Agency
- Santa Clara Valley Water District
- Antelope Kern-East Kern Water Agency
- Kern County Water Agency
- Metropolitan Water District of So Cal
- Palmdale Water District
- Solano Water Agency
- Castaic Lake Water Agency
- Crestline-Lake Arrowhead Water Agency
- Alameda County Water District
- San Luis Obispo County Flood Control

## ■ Guided by a Technical Advisory Committee (TAC)

## ■ Annual Budget of \$3.1M / 16 PYs

# MWQI Program - Program Elements

- Long-term Discrete Monitoring Program
- Real Time Monitoring
  - Modeling/Forecasting
- Science Support Studies
- Emergency Response
- Technical and scientific support

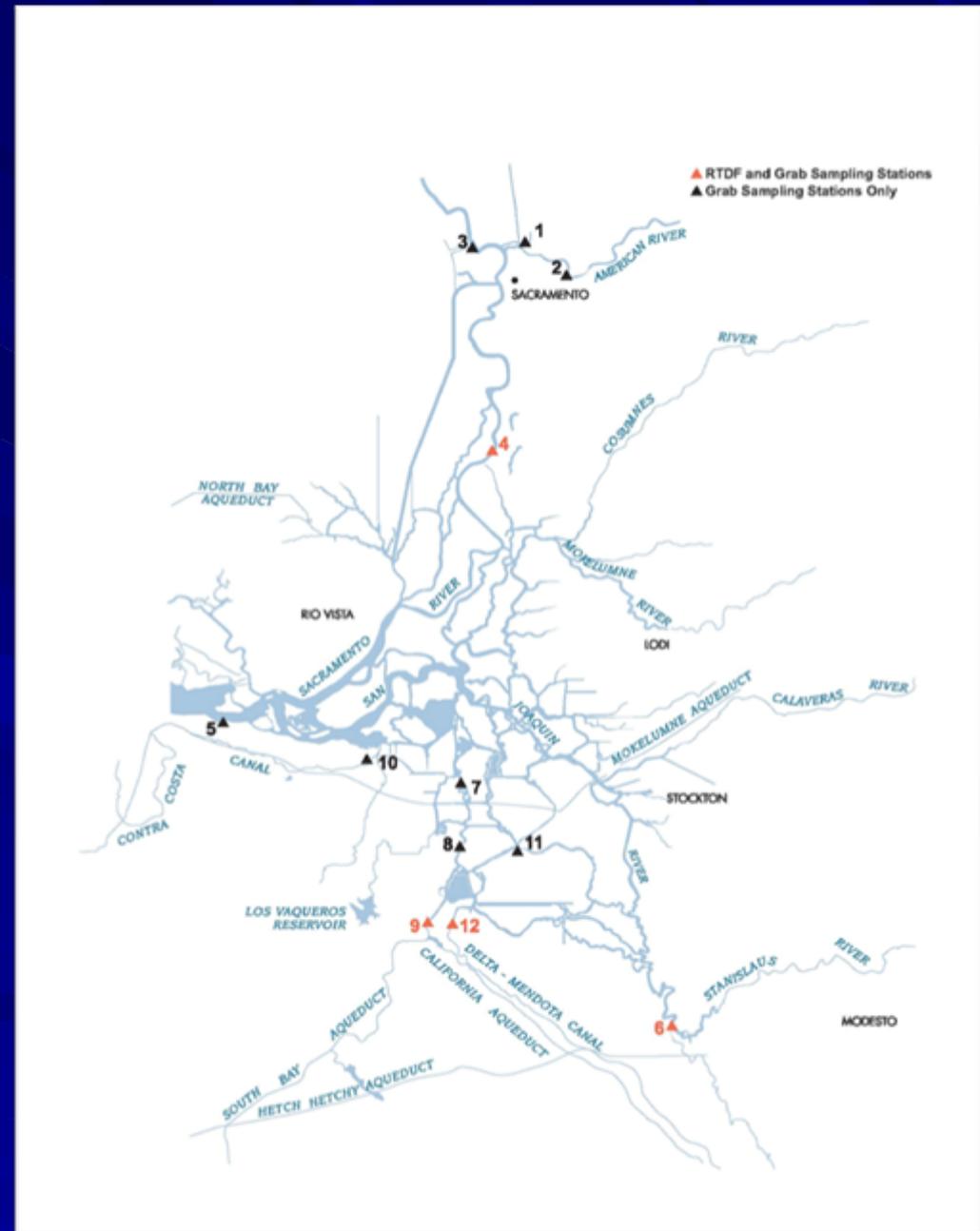
# Discrete Water Quality Monitoring

- 12 Delta sites monitored: biweekly, monthly
- Parameters measured: Organic Carbon, Anions, Cations, UVA, Nutrients, Specific Conductance, Turbidity, Temperature, pH, plus Metals & TSS (NEMDC only)

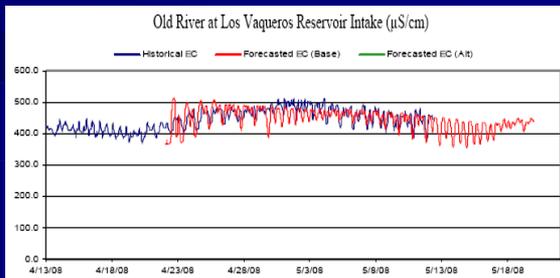
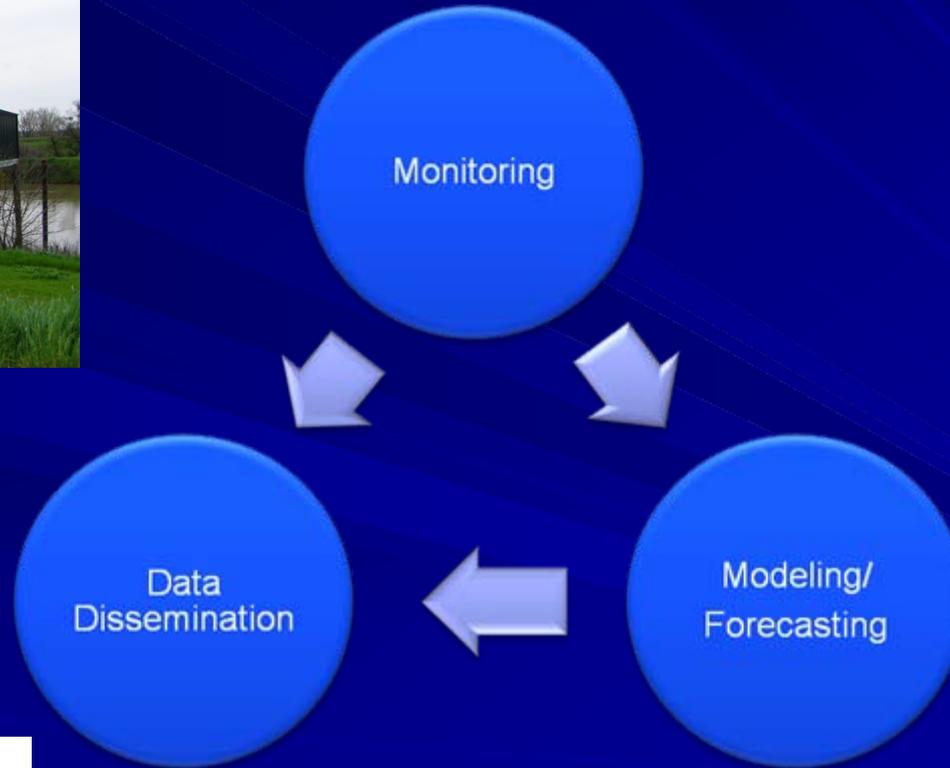


# MWQI Discrete ("Grab") Sampling Locations, 2009-2010

1. Natomas East Main Drainage Canal
2. American River at E.A. Fairbairn WTP
3. West Sacramento WTP Intake
4. Sacramento River at Hood (RTDF Station)
5. Sacramento River at Mallard Island
6. San Joaquin River near Vernalis (RTDF Station)
7. Old River at Bacon Island
8. Old River at Station 9
9. Banks Pumping Plant (RTDF Station)
10. Contra Costa Pumping Plant
11. Middle River at Union Point
12. Jones Pumping Plant (RTDF Station)



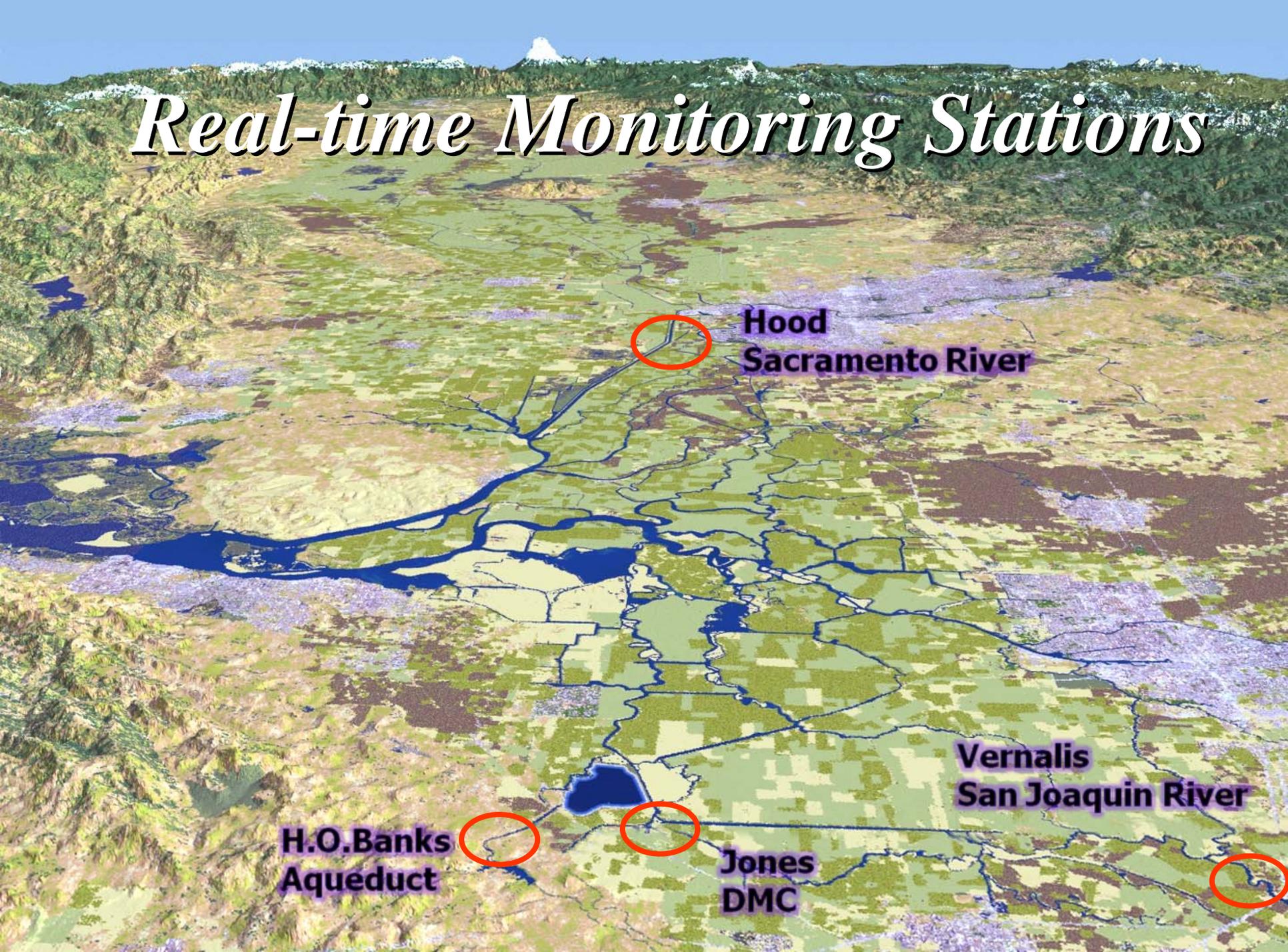
# Real-time Data Forecasting Comprehensive Program (RTDF-CP)



# Real-time Monitoring

- Four boundary stations established
  - Sacramento River at Hood
  - San Joaquin River near Vernalis
  - H.O. Banks Pumping plant (SWP)
  - Jones Pumping Plant (CVP)
- DOC, TOC, salinity measured at all sites
- Bromide, Chloride, Nitrate, Sulfate measured at Vernalis, Banks, and soon at Jones

# *Real-time Monitoring Stations*



**Hood  
Sacramento River**

**H.O.Banks  
Aqueduct**

**Jones  
DMC**

**Vernalis  
San Joaquin River**

# Real-time Monitoring

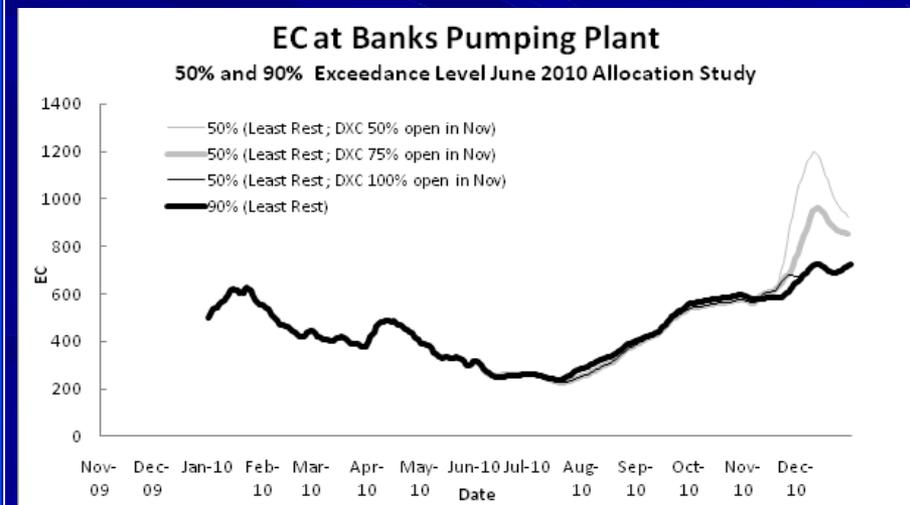
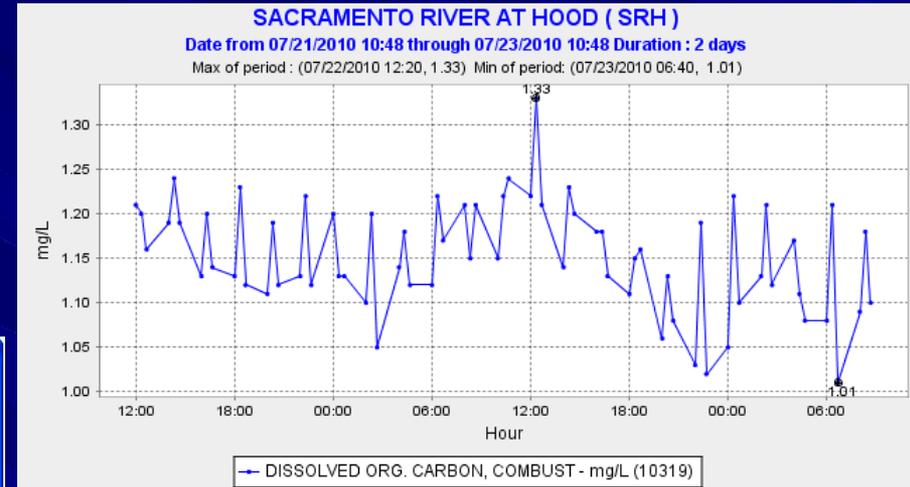


# Real-time Products

- Real time data
- Daily forecasts
- Seasonal forecasts

The screenshot shows the California Department of Water Resources website. The main navigation bar includes links for Home, Newsroom, Flood & Safety, Planning, State Water Project, Funding, Environment, Supply & Use, and Data. The 'Drinking Water Quality' section is highlighted, with a sub-section for 'Real Time Data and Forecasting (RTDF) Report'. A summary table provides data for the Sacramento River (Hood) and San Joaquin River (Vernalis) as of 7/16/10 and 7/22/10.

	7/16/10	7/22/10	% Change	7-day Average
<b>Sacramento River (Hood)</b>				
Mean Daily Flow, cfs	17004	18550	+9	17841
Salinity (EC), $\mu\text{S/cm}$	117	120	+2	120
DOC, mg/L	1.20	1.16	-4	1.26
TOC, mg/L	1.72	1.68	-3	1.80
<b>San Joaquin River (Vernalis)</b>				
Mean Daily Flow, cfs	1395	1333	-5	1423
Salinity (EC), $\mu\text{S/cm}$	489	494	+1	475



# Data Availability

## Discrete Monitoring Program

- Data available in Water Data Library  
<http://www.water.ca.gov/waterdatalibrary/>
- Comprehensive summary and analysis published in Biennial Reports

## Real Time Program

- Data available on CDEC  
<http://cdec4gov.water.ca.gov/>

## Special Studies

- Reports and Journal Articles available at:  
<http://water.ca.gov/waterquality/drinkingwater/index.cfm>

# Data Availability

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