

DRAFT

SRWP Watershed Monitoring Committee Meeting Notes
Thursday, February 22, 2007
SRWP Watershed Monitoring Committee Meeting
Central Valley Regional Water Quality Control Board Sacramento Office

Meeting Attendees:

<i>Kathy Russick, SRWP</i>	<i>Stephanie Fong, Central Valley Regional Board</i>
<i>Stephen Clark, Pacific EcoRisk</i>	<i>Claus Suverkropp, Larry Walker Associates</i>
<i>Brian Laurensen, Larry Walker Associates</i>	<i>Janet Parris, Sacramento County</i>
<i>Jodi Pontureri, Central Valley Regional Board</i>	<i>Chad Dibble, Central Valley Regional Board</i>
<i>Karen Larsen, Central Valley Regional Board</i>	<i>Bill Templin, American River Watershed Group</i>
<i>Irenia Quitiquit, SRWP</i>	<i>G. Fred Lee, G. Fred Lee & Associates</i>
<i>Kelly Miller, Western Shasta RCD</i>	<i>Bill Chase, MGK Consulting</i>
<i>Lori Webber, Central Valley Regional Board</i>	<i>Sheryl Gill, Cal Dept. of Pesticide Regulation</i>
<i>Robert Holmes, Central Valley Regional Board</i>	

I. Status Report on SRWP Monitoring Program—Kathy Russick, SRWP

Outlined below is the approach the SRWP Monitoring Committee took in the mid-1990s when they SRWP Monitoring Program was initially developed.

SRWP Monitoring Committee Goal

To develop a cost-efficient and well-coordinated long-term monitoring program within the watershed to identify the causes, effects and extent of pollutants that affect beneficial uses. To provide information to assess progress as control strategies are implemented.

SRWP Monitoring Approach

1. Evaluate known impacts—Urban runoff, agricultural runoff, mercury from mining
2. Evaluate whether the Sacramento River & its tributaries are meeting their beneficial uses?
 - Drinking water
 - Recreation
 - Fish habitat/spawning
 - Wildlife habitat
 - Fishing for consumption

Step 1. The SRWP identified parameters of interest

- Urban/ag runoff impacts
- Physical/conventional parameters
- Aquatic toxicity
- Mercury & methylmercury in water \$\$
- Fish tissue \$\$\$
- Biological conditions & habitat \$\$
- Drinking water parameters

Step 2. Identified existing monitoring in the Sac River Watershed

- Found 167 NPDES permits in Sacramento watershed, only some had compliance WQ monitoring
- Limited ambient monitoring
- Permits concentrated around urban areas
- Typically limited monitoring parameters (e.g., pH, temperature, turbidity)
- SRWP found only 7 monitoring efforts that offered potential for coordination—City of Redding, DWR (2 efforts), DFG, USGS, City/County of Sacramento (2 efforts)
- Initially SRWP monitoring was intended to fill in gaps

Step 3. Design SRWP Monitoring Program

- Designed a baseline monitoring program nearly from scratch, one that would establish baseline water quality conditions
- Eventually want to track long-term trends
- Evaluate compliance w/ water quality standards
- Mainly mainstem river monitoring with a few representative ag and urban runoff drainages
- When funding allowed, could conduct focused monitoring on specific water quality issues (e.g., toxicity, ag discharges, mercury)

Step 4. Building infrastructure for SRWP Monitoring Program

- Quality Assurance Project Plan (QAPP)
 - Establishes data quality objectives
 - Specifies procedures for sampling, shipping, record keeping, lab analyses, and data review.
 - Promotes data quality
 - Strives for data comparability both internally and externally
- Water Quality Database with on-line access

Step 5. Implement Multi-Year monitoring program

- On-going stakeholder input through Monitoring Committee
- Annual monitoring plan developed each year
- Extent of monitoring varies with available resources
- Maintain a baseline monitoring program
 - Baseline sites
 - Baseline of monitoring parameters
 - Minimum monitoring frequency (quarterly minimum, monthly monitoring desirable)

SRWP Monitoring Program

- Based on these steps, the SRWP implemented its monitoring program starting in 1998 which has continued to the present missing only one year of monitoring.
- The monitoring has varied somewhat from year-to-year, depending upon funding.
- Each year the SRWP monitoring plan is developed with input from the Monitoring Committee, SRWP Toxics Committee, Delta Tributaries Mercury Council, and Bioassessment Workgroup.
- In implementing its Monitoring Program, the SRWP has coordinated with other regional monitoring efforts in order to share costs and reduce duplication.
- The SRWP needs to check in again with some of these regional efforts, especially DWR, to coordinate monitoring.

SRWP Monitoring Sites (for details see Attachment 1—SRWP Monitoring Site Map)

- 13 baseline sites along the mainstem Sacramento River, major tributaries (Feather, American, and Yuba rivers), 2 representative ag drainages, 1 representative urban drainage
- When additional funds have been available, the SRWP has monitored more than 13 sites

SRWP Monitoring Parameters (for details see Attachment 2—SRWP monitoring parameter matrix)

- Water chemistry
 - mercury/methylmercury
 - drinking water parameters—TOC/DOC, UVA 254
 - TSS, TDS
 - nutrients
 - pesticides
- Aquatic toxicity—three species
- Fish tissue—mercury, legacy pesticides,
- Bioassessment—often fund special studies

SRWP Monitoring Program accomplishments since 1998

- Successfully implemented a major regional monitoring program that is entering its 8th year
- The monitoring plan is coordinated with other monitoring efforts in the watershed

- Data is trusted and used by others
- Peer reviewed annual reports
- The QAPP is a model for others
- Developed a water quality database—starting in 2004 became available on-line at the DWR BDAT website www.baydelta.ca.gov

II. Central Valley Regional Board SWAMP Program—Robert Holmes, Central Valley Regional Board

Scientific Planning and Review Committee (SPARC)

- SWAMP had 2nd external scientific review conducted by SPARC who reviewed both the statewide and the regional SWAMP programs in 2005 and early 2006
- SPARC recommendations for SWAMP:
 - Reevaluate the original program goals
 - Identify key target audiences
 - Develop and implement a programmatic communication strategy
 - Develop a statewide assessment framework
 - Take more advantage of available resources
 - Realign program management and decision making with the revised program goals

SWAMP Business Plan

- Short-term business plan (BP) describes steps to implement SWAMP strategy for 06/07 funds
- Business Plan elements include:
 - Monitoring Council support (AB 1070) to integrate monitoring efforts among all state agencies and others
 - Assessment framework structure – conceptual structure
 - Design statewide bioaccumulation survey - BOG
 - Statewide bioassessment coordination – biocriteria white paper
 - Bioassessment reference site plan, GIS and statistics support
 - Periphyton indicator development plan – pilot IBI
 - Update SWAMP QAMP
 - SWAMP database support
 - SWAMP perennial stream survey
 - and many other elements

Total Region 5 SWAMP allocation for 2006/07 = \$664,700

State and Regional Monitoring Components:

- The State and Regional monitoring components vary in their scale of questions, objectives, and design
- State Program
 - Asks broad questions (e.g., What percent of the state's water bodies are healthy?)
 - Uses of program—EPIC, 305b Report, legislative reports
- Regional Program—Objective and design are more specific
 - To determine if specific waterbodies are meeting water quality standards
 - Gather data for 303d list
 - To determine if specific management/restoration efforts are successful

SWAMP Program Future Direction

- Performance targets for regions—database, reporting/assessing, SWAMP data comparable plan
- Monitoring Plan peer review process
- Regional consistency with statewide program
 - Assessment framework (in development)
 - Initial focus on aquatic life
 - Bioassessment key indicator
 - Random probalistic surveys
 - Wadeable waterbody focus

Central Valley Region SWAMP Structure

- Region 5 SWAMP sub-basins:
 - Sacramento River (Upper/Lower)
 - San Joaquin River
 - Tulare Lake Basin
- Overall sub-basin structure built around existing monitoring frameworks and programs

Central Valley SWAMP Objective/Goals

- Objective—evaluation of beneficial use protection/impairment
- Goals:
 - rotational monitoring of each sub-basin
 - internal/external coordination
 - evaluation of source impairment
 - evaluation of effectiveness of Water Board water quality improvement policies
 - timely results

Central Valley SWAMP Program Components

- Ambient water quality assessments through:
 - Long-term trend monitoring
 - Rotational sub-regional monitoring
 - Special studies
- Data management and availability through:
 - Technical Reports and Fact Sheets
 - Publications
 - SWAMP database
 - Region 5 website
- Promote SWAMP data comparability
- Coordination and integration

Lower Sacramento River Basin SWAMP Monitoring—Each Watershed Rotational Sub-basin Cycle:

- Monitoring Plan Process, includes stakeholders and collaboration
- Develop Monitoring Objectives
- Collect Field/Lab Data
- Compile/Manage Data – SWAMP Database
- Assess/Interpret Data – Interpretive Reports
- Convey Results & Findings

Rotational Assessments Completed—Valley Floor Rotation

- Pyrethroid pesticides & sediment toxicity in Sacramento area urban creeks
- Benthic invertebrate bioassessments/habitat assessments
- Stormwater triad monitoring
- Zooplankton bioassessments
- Sediment-bound contaminant monitoring

Rotational Assessments Underway—American River Basin Rotation, upstream of Lake Natoma

- Goal: Assess possible water quality impacts from historical mining, agriculture, and urban areas in upper watershed
- Indicator: water column toxicity testing
- 10 sites – mainstem and tributaries (summer, first flush, rain)

Rotational Assessments Underway—Bear/Yuba/Feather River Rotation

- Goals: Identify sources of mercury and methyl mercury into Delta
- Assess methyl mercury in tissue and water – TMDL linkage
- SWAMP = 4 Sites—Bear, Yuba, Feather (2 sites) rivers
- Target fish: Largemouth Bass and Sacramento Sucker

Region-wide Assessments Underway—Tissue Assessment of OC pesticides and PCBs in fish in the Sacramento, San Joaquin Watersheds and Delta

- Objectives: Assist in decisions on 303d listings
- Assist in deliberating fish consumption advisories
- Determine temporal trends
- Determine spatial distribution/extent of fish contamination
- CALFED Fish Monitoring Program and archived fish samples
- Collaboration between SWAMP, SRWP, OEHHA, Delta Keeper = ~ 180 samples
- SWAMP = integrative assessment report (Dec 2007)
- CALFED (~500K) and TMDL (~100K) = 25 sites

Region-wide Assessments Completed

- Screening Surface Waters for Estrogenic Endocrine Disrupting Chemicals (EEDCs)
- 113 Samples in Central Valley
- Looked at wastewater treatment plants, urban, and agricultural discharges
- Indicator: Juvenile Rainbow Trout

Special Study Update—Bioassessment Methods Comparison

- Four low gradient sites (2 agricultural/2 urban)
- Goal: compare 3 bioassessment methods (CSBP, MH, MCM) low gradient waterways across state
- Sampled: Summer 2006 by CDFG
- SRWP/SWAMP funds
- SCCWRP preparing final report – 2007
- Incorporate findings into SWAMP protocols

Future CVRWQCB SWAMP Program - Discussions

- Assessment Questions – status and trends, sources and loads...
- Indicator Selection
- Key Beneficial uses:
 - Fishing
 - Swimming (Recreation)
 - Drinking Water
 - Aquatic Life
- Design discussions—targeted, rotational, fixed integrator, random, ...
- Reporting (meeting objectives, not meeting objectives, unknown, ...)
- Leveraging resources and integrating programs
- Consistency with Statewide Assessment design
- Consistency with 303d/305b

CV Regional Board SWAMP Contacts

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III. Sacramento Valley Water Quality Coalition (SVWQC) Monitoring—*Claus Suverkropp, Larry Walker Associates consultant for SVWQC*

- SVWQC initiated its monitoring program under the irrigated lands discharge program in December 2004

2007 SVWQC monitoring sites

- 31 monitoring sites throughout the Sacramento River Watershed
- 2 of these sites are monitored in collaboration with the SRWP—Sacramento Slough and Colusa Basin Drain
- Other sites are shared with other monitoring programs

SVWQC water quality analyses:

- Field measured parameters
- Nutrients
- Various pesticides
- E. coli
- 3-species aquatic toxicity
- sediment toxicity
- trace metals
- boron

SVWQC Events Schedule

- 2 storm events per year
- ≤ 6 irrigation season events
- follow-up sampling as required

IV. Review Current Major Monitoring Efforts in Sacramento River Watershed—*Kathy Russick*

1. SWAMP—both regional & statewide
2. Irrigated Lands Program (including rice)
3. NPDES dischargers—discharges to surface waters that are permitted under the Clean Water Act
 - a. Urban stormwater
 - i. Currently only the single Phase I stormwater program is required to monitor in the watershed—Sacramento Stormwater Quality Partnership
 - ii. Phase II cities (~ 20) are not yet required to monitor but may in the future
 - b. Wastewater treatment plants
 - c. Industrial facilities
4. Cal. Department of Water Resources (DWR) Programs
 - a. Municipal Water Quality Investigations (MWQI) Program
 - b. Northern District
 - c. Central District
 - d. FERC dam operation re-licensing efforts
5. Department of Pesticide Regulation (DPR)—limited pesticide monitoring at few sites
6. US Geological Survey NAWQA Program—2 sites only, very limited monitoring
7. PG&E and other dam operators
8. Mercury TMDL monitoring
9. Interagency Ecological Program (IEP) in Lower Watershed—Rich Breuer contact
10. State Board sediment quality objectives work
11. Yolo County Cache Creek monitoring

V. Regional Monitoring Data Needs in Sacramento River Watershed—*Kathy Russick*

1. CALFED performance measures—currently being developed by CALFED programs
2. Delta Vision
3. Drinking water purveyors
4. status and trends monitoring
5. 303(d) listings and TMDLs

6. evaluation of management action effectiveness—State Board NPS Program
7. integrated assessment of water quality in the Sacramento River Watershed

VI. Model for an On-Going Regional Monitoring Program—*Kathy Russick*

- **Background:** The SRWP's monitoring program has been funded through an EPA grant and currently a Prop 50 CALFED Watershed Program grant. That funding runs out at the end of 2007 and the SRWP has no funding identified to continue its monitoring program.
- Grant funding is not a viable and long-term funding source for a regional monitoring program.
- SRWP has been exploring its options for funding a regional monitoring program in the Sacramento River Watershed and has always arrived at the Bay Area's Regional Monitoring Program (RMP) model. The SRWP Monitoring Committee arrived at the same conclusion as well. The RMP model for the Sacramento River Watershed would offer the best approach and would provide a secure and on-going funding source.
- The SRWP has had initial discussions with the Regional Board about implementing a RMP modeled monitoring program in the Sacramento River Watershed. This SRWP Monitoring Committee meeting is part of the process of exploring that possibility.
- The SRWP will be giving a presentation to the Central Valley Regional Board at their March 15/16, 2007 Board meeting. The possibility of implementing an RMP modeled program will be included in the presentation.
- To make a RMP-modeled program work, it could not add an additional layer of monitoring costs to the regulated community. Therefore, there would have to be concessions by Regional Board regulators to require less monitoring of the regulated community in order to fund a regional monitoring program.
- The regulated community in the Sacramento River Watershed would also have to agree to this approach.

VII. Next Meeting

- Kathy will try to get presentations from:
 - DWR Northern District—Fraser Sime
 - DWR Central District—Perry LeBouef
 - San Francisco Estuary Institute—Jay Davis or Rainer Hoenicke
- Looking at Wednesday, April 11 from 1:00 – 4:30 for next meeting. Location in Woodland or Sacramento.