

FILE:42-4.19&6.19-9 CORRESPONDENCE RELATED  
TO SWRCB ORDER APPROVING TEMPORARY URGENCY  
CHANGE IN PERMITS 12947A, 12949, 12950& 16596  
(ORDER WR 2009-0027-DWR)

May 22, 2009

Ms. Victoria A Whitney  
Deputy Director for Water Rights  
State Water Resources Control Board  
Division of Water Rights  
P.O. Box 2000  
Sacramento, CA 95812-2000

**RE: Revised Water Quality and Temperature Monitoring Plan as Required by  
Water Rights Order 2009-0027-DWR**

Dear Ms. Whitney:

Enclosed please find a revised Water Quality and Temperature Monitoring Plan (Plan) for the Russian River and Lake Mendocino. The Plan is submitted as meeting the requirements of the State Water Resources Control Board Division of Water Rights Order WR 2009-0027-DWR, Provisions 8 and 9. This plan was developed by the Sonoma County Water Agency (Agency) in consultation with the North Coast Regional Water Quality Control Board (NCRWQCB), NOAA National Marine Fishery Service (NMFS), the California Department of Fish and Game (DFG), the Sonoma County Environmental Health Department (DEH) and the State Water Resources Control Board Division of Water Rights (Division). The review of comments received and consultation with all parties noted above has resulted in this revised water quality sampling and monitoring plan.

The Plan incorporates many of the recommendations provided by staff from NCRWQCB, NMFS, DFG and DEH as discussed in consultation on May 14, 2009. However, based on rationale provided below, not all recommendations were included in the revised Plan.

**Bacteria Monitoring**

After review of the NCRWQCB recommendations, consultation with DEH, the Sonoma County Public Health Laboratory, aerial photography and Agency staff familiar with the recreational areas of the Russian River the Plan provides for bacteria monitoring at twelve sites in Sonoma and Mendocino Counties. Of the proposed twelve sites, eleven were recommended by the NCRWQCB. Several sites recommended by NCRWQCB staff have been excluded from the revised Plan based on the following reasons:

- Several of the sites are located on upper reaches of the river where flows will be at or near 100 cubic feet per second, well above the minimum in-stream flow requirements;
- Several of the sites have restricted or no legal public access and consequently lack high recreational use.
- Laboratory Resources – Discussions with staff at the Sonoma County Public Health Laboratory (Lab) indicate the number of samples proposed in the revised Plan is the maximum they are confident they will be able to process within the necessary reporting times, the Lab is under contract with the

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NCRWQCB, DEH and the Agency, is familiar with the seasonal pathogen program and has the necessary reporting protocols already in place;

The twelve proposed bacteria monitoring locations will be sampled on a weekly basis and during the Labor Day weekend.

### **Biostimulatory Response Water Quality Monitoring Program**

On May 14, 2009, the recommended biostimulatory response water quality monitoring program was discussed to the extent that additional information was needed to determine an appropriate plan. Agency staff investigated adding chlorophyll-a probes to the Agency's sondes, however the probes only account for chlorophyll and not chlorophyll-a as was recommended. To correlate the chlorophyll results to chlorophyll-a, a specific site oriented calibration study would need to be conducted at each sampling location. Given that and the extraordinary cost of each probe the Agency determined that a grab sample program at numerous locations within the watershed would accomplish the goal of the NCRWQCB recommendations.

The Plan provides for sampling nutrients on a weekly basis at six locations from the outfall at Lake Mendocino to Johnson's Beach at Guerneville. As discussed on May 14, 2009, these locations should provide for an overall representation of water quality in the Russian River. In addition to the nutrients, chlorophyll-a will be sampled at five locations downstream of the outfall. The sites correspond with locations of permanent or seasonal sondes and bacteria sampling sites so correlations, if any, may be determined. One site was removed from the program due to restricted access and no recreational use.

### **Reporting**

The Agency will provide results of all bacteria sample results as soon as made available to both the NCRWQCB and DEH so that the data can be provided on their respective websites for public review. The Agency will describe and provide links to both websites and upon written receipt of nutrient and chlorophyll-a results will update its website to include that data. A final written report will be submitted within three months following the end of the Order.

If you have any questions or comments, please do not hesitate to contact me directly.

Sincerely,



Donald J. Seymour, P.E.  
Water Agency Principal Engineer

c Pamela Jeane, Jim Zambenini, Ellen Simm, David Manning, Jeff Church, George Lincoln  
Eric Oppenheimer, State Water Resources Control Board, Division of Water Rights  
Catherine Kuhlman, Richard Fadness, North Coast Regional Water Quality Control Board  
Walt Kruse, Christine Sosko, Jim Tyler, Sonoma County Department of Health Services  
Alan Lilly, Bartkiewicz, Kronick & Shanahan

Enclosure: Revised Temperature and Water Quality Monitoring Plan

**Sonoma County Water Agency  
Revised Temperature and Water Quality Monitoring Plan  
For the Russian River during April – October 2009  
May 22, 2009**

**Background**

This revised Temperature and Water Quality Monitoring Plan (Plan) is submitted in accordance with State Water Resources Control Board (State Board) Division of Water Rights Order WR 2009-0027-DWR (Order), approving a Temporary Urgency Change in Permits 12947A, 12949, 12950, and 16596 for Sonoma County Water Agency (Agency). Provision 8 of the Order required the Agency to prepare a Temperature Monitoring Plan and Provision 9 required the Agency to prepare a Water Quality Monitoring Plan for the Russian River and Lake Mendocino. On April 20, 2009, the Agency submitted a plan to meet the requirements of Order WR 2009-0027-DWR. Following public comment during a public workshop on May 6, 2009 and comments relative to the original plan, the State Board asked the Agency to revise the plan in consultation with the North Coast Regional Water Quality Control Board (NCRWQCB), NOAA National Marine Fisheries Service (NMFS) and the California Department of Fish and Game (DFG).

On May 14, 2009, the Agency consulted with staff from the Sonoma County Environmental Health Department (DEH), NCRWQCB, NMFS, DFG with staff from the State Board and DFG also present via teleconference. The review of comments received and consultation with all parties noted above has resulted in this revised water quality sampling and monitoring plan.

**Summary**

The Plan incorporates the collection of data through permanent and seasonal instrumentation to collect both real time and baseline water quality information and provides for the analysis of water quality through sampling for public health guidance and overall water quality condition.

The revised water quality and temperature sampling locations are shown in Attachment A. A more detailed summary of the revised sampling program is provided in Attachment B. The individual components are explained below.

**Agency Permanent and Seasonal Sondes**

In coordination with the United States Geological Survey (USGS) the Agency maintains five multi-parameter water quality sondes on the Russian River located at Hopland, Diggers Bend in Healdsburg, the Agencies river diversion facility (RDS) at Mirabel, Hacienda Bridge and Johnson's Beach. These five sondes are referred to as "permanent" as the Agency maintains them as part of its early warning detection system. The sondes take real time readings of water pH, temperature, dissolved oxygen content (DO), specific conductivity, turbidity, and depth, every 15 minutes and transmit the raw data via telemetry to the Agencies operations center. In addition, the Hopland, Diggers Bend and Hacienda Beach data is provided in cooperation with the USGS on its "Real-time Data for California" website. For those interested in the complete

set of water quality data, the Agency offers an “email subscription” available to the public via the Agencies website.

In addition to the permanent sondes, the Agency seasonally deploys sondes at various locations within the watershed. This year the Agency in cooperation with the USGS is installing seasonal sondes with real-time telemetry at the USGS river gauge station north of Cloverdale at Commisky Station Road and at new gauge stations at the Alexander Valley Road Bridge and at Riverfront Park. However, the USGS is heavily burdened with ongoing activities in many of the coastal watersheds and these three sondes may not be installed until July. Once installed, the Agency will update its website links to include these three new seasonal stations.

In consultation with the NCRWQCB the Agency is deploying two seasonal sondes in the upper reach of the Russian River just below Coyote Dam. These sondes will be deployed at the Lake Mendocino outfall and just below the westfork confluence. The westfork confluence location is pending access over private property and thus collection of data will commence upon access and installation.

As part of its estuary monitoring program the Agency installs seasonal sondes in the lower portion of the Russian River below Duncans Mills. Sondes are deployed at Freezeout Creek, Heron Rookery, Sheephouse Creek, Bridgehaven, Patty’s Rock and at the mouth of the Russian River at Jenner. These sondes take readings on water pH, temperature, DO, specific conductivity, salinity, and depth, every hour. Three of these sites are boat in only and thus data are stored in the unit until it can be retrieved by field personnel. SCWA personnel download the data in the field every two to three weeks.

### **Water Quality Sampling**

The NCRWQCB in cooperation with the DEH conducts seasonal bacteriological and general water quality sampling at Russian River beaches which experience the greatest body contact recreation. In consultation with the NCRWQCB and DEH, the Agency will supplement the seasonal program with a bacteriological and biostimulatory response sampling program.

The NCRWQCB seasonal sampling locations consist of: Camp Rose; Memorial Beach; Steelhead Beach; Forestville Access Beach; Johnson’s Beach; and Monte Rio Beach. In addition to the seasonal sampling locations noted above, the Agency will conduct supplemental weekly bacteriological sampling at: the Russian River near Commisky Station Road (aka Russian R NR Cloverdale); Cloverdale River Park; Geyserville Hwy 128 bridge; Alexander Valley Road bridge; and at the Hacienda Bridge, these locations were selected as additional public recreational sites. Bacteriological samples will be collected weekly beginning May 28, 2009 continuing until October 1, 2009 and during the Labor Day weekend. The samples will be analyzed using the Colilert-18 quantitray MPN method for total coliform and *E. coli* and the Enterolert quantitray method for Enterococcus. Daily sampling will be conducted following an acute exceedance of the California Department of Health Services – Draft Guidance for Fresh Water Beaches and continue until a “less than” result is confirmed.

In addition to the bacteriological sampling and in consultation with the NCRWQCB, NMFS and DFG, the Agency will conduct biostimulatory response water quality monitoring at the following locations: Lake Mendocino outfall; Russian River near Commisky Station Road (aka Russian R NR Cloverdale); Alexander Valley Road bridge; Healdsburg Veterans Memorial Beach; Hacienda bridge; and Monte Rio Beach. Water samples will be collected weekly and analyzed for: Ammonia-N; Nitrate-N; Total Organic Nitrogen; and Total Phosphorous. In addition, chlorophyll-a will be analyzed for at all stations except the Lake Mendocino outfall.

The Agency will also be conducting a separate but related estuary bacteriological and nutrient sampling program. Agency staff will collect bacteriological and nutrient samples once every three weeks at three locations in the estuary: (1) Freezeout Creek below Duncans Mills; (2) Bridgehaven; and (3) River mouth at Jenner. Similar to the previously described bacteriological and nutrient constituents the estuary samples will be analyzed for total coliform and *E. coli* using the Colilert-18 quantitray MPN method and Enterococcus using the Enterolert quantitray method for Enterococcus. Nutrients analyzed will be consistent as described previously.

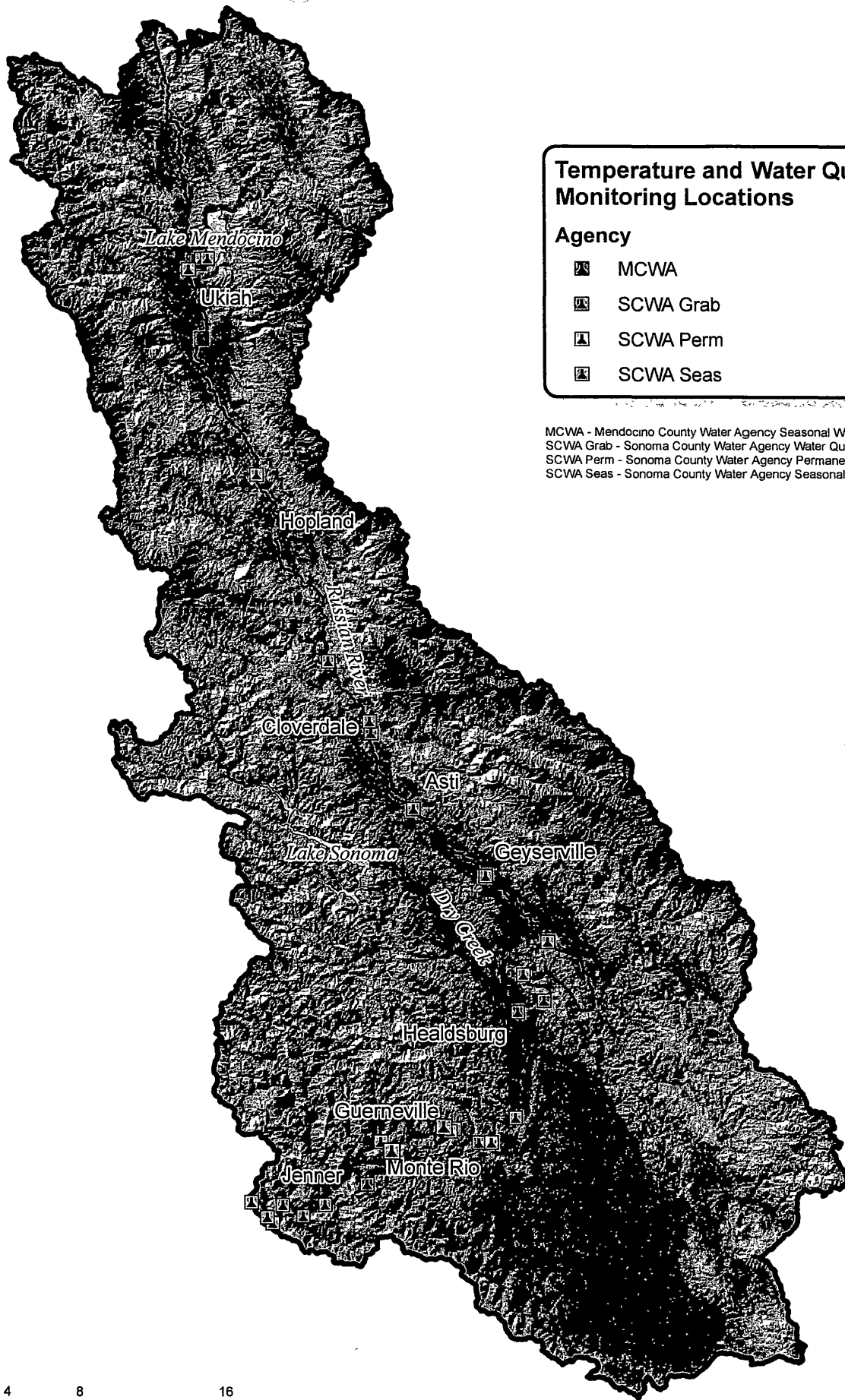
The NCRWQCB and the Agency will also collaborate on vertical profiling of Lake Mendocino water quality at or near the tower structure. The profiling will be conducted on a monthly basis and alternate between Agency and NCRWQCB staff.

### **Sonoma and Mendocino County Water Agency Seasonal Water Temperature Collection**

In addition to temperature data collected by the sondes, the Agency will deploy seasonal water temperature sensors with data logging capabilities at Preston, Asti and Geyserville. The data will be downloaded and compiled every two to three weeks. The Mendocino County Water Agency deploys seasonal water temperature sensors with data logging capabilities at numerous locations throughout the watershed. In the Russian River they expect to deploy sensors in the East Fork of the Russian River below Coyote Dam, in the West Fork of the Russian River below Lake Mendocino Drive, in the Russian River at Talmage Road and in the Russian River at Commisky Station Road. The Mendocino County Water Agency has agreed to provide the raw data as downloads become available.





### **Data Analysis and Reporting**

Results from bacteriological samples will be transmitted to both the DEH and NCRWQCB within one business day for posting to their respective websites and potential beach postings. The Agency will also update its website to include links to the DEH and NCRWQCB websites. The Agency will also submit results within one business day to the Mendocino County Environmental Health Department which expects to report exceedances on its beach hotline. Laboratory results from the nutrient and chlorophyll-a sampling will be posted on the Agencies website upon receipt of the written laboratory report. Online stream gauge and sonde data is evaluated by Agency staff multiple times daily and upon weekly consultation with DFG, NMFS, NCRWQCB and the DEH may result in the adaptive management of flows. A written report will be submitted to the NCRWQCB and DEH summarizing all collected data within three months of the end of the Order.

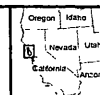
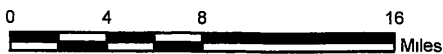


### Temperature and Water Quality Monitoring Locations

#### Agency

-  MCWA
-  SCWA Grab
-  SCWA Perm
-  SCWA Seas

MCWA - Mendocino County Water Agency Seasonal Water Temp Locations  
 SCWA Grab - Sonoma County Water Agency Water Quality Sampling Locations  
 SCWA Perm - Sonoma County Water Agency Permanent Sonde Locations  
 SCWA Seas - Sonoma County Water Agency Seasonal Sonde Locations



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Attachment B - revised

May 22, 2009

Summary of Water Quality and Temperature Monitoring for Order 2009-0027-DWR

Location	Instrument or sensor based sampling										
	depth	temperature	DO	pH	turbidity	specific conductance	salinity	sampling frequency	telemetry?	duration	
<b>SCWA Permanent and Seasonal Sonde YSI Water Quality Samplers</b>											
Lake Mendocino Outfall	x	x	x	x		x	x	1 hour	n	May - Oct	
Westfork Confluence***	x	x	x	x		x	x	1 hour	n	upon install - Oct	
Hopland USGS site	x	x	x	x	x	x		15 min	y	permanent	
RR near Cloverdale USGS site*	x	x	x	x	x	x		15 min	y	upon install - Oct	
Alexander Valley Road Bridge*	x	x	x	x	x	x		15 min	y	upon install - Oct	
Digger's Bend	x	x	x	x	x	x		15 min	y	permanent	
Riverfront Park*	x	x	x	x	x	x		15 min	y	upon install - Oct	
Mirabel (SCWA RDS Facility)	x	x	x	x	x	x		15 min	y	permanent	
Hacienda Bridge	x	x	x	x	x	x		15 min	y	permanent	
Johnson's Beach	x	x	x	x	x	x		15 min	y	permanent	
Freezeout Creek	x	x	x	x		x	x	1 hour	n	April - Dec**	
Heron Rookery	x	x	x	x		x	x	1 hour	n	April - Dec**	
Sheephouse Creek	x	x	x	x		x	x	1 hour	n	April - Dec**	
Bridgehaven	x	x	x	x		x	x	1 hour	n	May - Dec**	
Patty's Rock	x	x	x	x		x	x	1 hour	n	April - Dec**	
Mouth @ Jenner	x	x	x	x		x	x	1 hour	n	April - Dec**	
*sondes at RR near Cloverdale, Alexander Valley Road Bridge and Riverfront Park are pending USGS installations											
**Dec removal is storm and high river dependant											
*** sonde at Westfork confluence is pending site access											
<b>SCWA Seasonal water temp locations</b>											
Preston		x						15 min	n	June - Oct	
Asti		x						15 min	n	June - Oct	
Geyserville		x						15 min	n	June - Oct	
<b>MCWA Seasonal water temp locations</b>											
EF Russian River below dam		x						90 min	n	June - Oct	
WF Russian River		x						90 min	n	June - Oct	
Russian River at Talmage Rd		x						90 min	n	June - Oct	
Russian River at Commisky		x						90 min	n	June - Oct	

Location	Grab Sampling Program										
	total coliform / E. coli	enterococcus	chlorophyll/a	temperature	DO	pH	turbidity	nutrients*	conductivity	Duration	
<b>SCWA Urgency Change Order Bacteriological, Nutrient and Water Quality Grab Sampling</b>											
Lake Mendocino Outfall								x		May 28 - Oct 1	
RR near Cloverdale USGS site	x	x	x	x	x			x		May 28 - Oct 1	
Cloverdale River Park	x	x		x	x					May 28 - Oct 1	
Geyserville Hwy 128 Bridge	x	x		x	x					May 28 - Oct 1	
Alexander Valley Road Bridge	x	x	x	x	x			x		May 28 - Oct 1	
Camp Rose Rd. (Fitch Mountain)**	x	x		x	x					May 28 - Oct 1	
Healdsburg Veterans Memorial Beach**	x	x	x	x	x			x		May 28 - Oct 1	
Steelhead Beach**	x	x		x	x					May 28 - Oct 1	
Forestville Access Beach**	x	x		x	x					May 28 - Oct 1	
Hacienda Bridge	x	x	x	x	x			x		May 28 - Oct 1	
Johnson's Beach**	x	x	x	x	x			x		May 28 - Oct 1	
Monte Rio Beach (multiple sites)**	x	x		x	x					May 28 - Oct 1	
*nutrients include Ammonia-N, Nitrate-N, Total Organic Nitrogen, Total Phosphorous											
Note - SCWA samples Thursday weekly following Memorial Day until end of Order, and Labor Day weekend, daily sampling will follow acute exceedance of the California Department of Health Services - Draft Guidance for Fresh Water Beaches											
**The NCRWQCB and Sonoma County Environmental Health Department conduct seasonal bacteriological sampling at these locations weekly from the Tuesday following Memorial Day until the Tuesday following Labor Day											
<b>SCWA Seasonal Estuary bacterial and nutrient grab sampling</b>											
Freezeout Creek (below Duncans Mills)	x	x	x	x	x			x		June - Oct	
Brdgehaven	x	x	x	x	x			x		June - Oct	
Mouth @ Jenner	x	x	x	x	x			x		June - Oct	
Note - SCWA samples once every three weeks for nutrients and total / E. coli and Enterococcus											
<b>SCWA/NCRWQCB Vertical Temperature Profiles</b>											
Lake Mendocino (2-4 locations)				x	x	x			x	May - September	
Note - SCWA and NCRWQCB alternate conducting monthly vertical temperature profiles											