Prepared in cooperation with the Sonoma County Water Agency

Water-Quality Data for the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010

Data Series 610

U.S. Department of the Interior
U.S. Geological Survey

Cover photograph of Johnson's Beach, Russian River, Sonoma County, California
by Robert Anders, U.S. Geological Survey.

Water-Quality Data for the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010

By Robert Anders, Karl Davidek, and Donald M. Stoeckel

Prepared in cooperation with the Sonoma County Water Agency

Data Series 610

U.S. Department of the Interior
U.S. Geological Survey

U.S. Department of the Interior
KEN SALAZAR, Secretary

U.S. Geological Survey
Marcia K. McNutt, Director

U.S. Geological Survey, Reston, Virginia: 2011

For more information on the USGS—the Federal source for science about the Earth, its natural and living resources, natural hazards, and the environment, visit http://www.usgs.gov or call 1–888–ASK–USGS.

For an overview of USGS information products, including maps, imagery, and publications, visit http://www.usgs.gov/pubprod

To order this and other USGS information products, visit http://store.usgs.gov

Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Although this report is in the public domain, permission must be secured from the individual copyright owners to reproduce any copyrighted materials contained within this report.

Suggested citation:
Anders, Robert, Davidek, Karl, and Stoeckel, Donald M., 2011, Water-quality data for the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010: U.S. Geological Survey Data Series 610, 120 p.

Contents

Abstract 1
Introduction 1
Background 1
Description of Study Area 3
Purpose and Scope 5
Site Selections 5
Surface-Water Sites 5
Russian River Sites 5
Tributary Sites 9
Gravel-Terrace Pit Site 9
Groundwater Sites 9
Miscellaneous Sites 12
Methods 12
Discharge Measurements and Sample Collection 12
Water-Quality Analyses 13
Field Parameters 13
Common Constituents 13
Stable Isotopes of Hydrogen, Carbon, and Oxygen 13
Radiogenic Isotopes of Tritium and Carbon 15
Microbiological Indicators 15
Molecular Biomarkers 16
Organic Wastewater Compounds 16
Water Samples 16
Bed Sediment Samples 18
Human-Use Pharmaceuticals 18
Data Reporting 18
Reporting Limits 18
Quality-Control Data Analysis 19
Surface-Water Blanks 19
Groundwater Blanks 20
Surface-Water Replicates 21
Discharge Measurements and Water-Quality Data 21
Summary 22
Acknowledgments 22
References Cited 22
Tables 25

Figures

1. Map showing location of the Russian River in Mendocino and Sonoma Counties, California 2
2. Map showing location of the Russian River study area in Mendocino and Sonoma Counties, California 4
3. Map showing location of Sonoma County Water Agency's water-supply facility near the town of Forestville in Sonoma County, California 6
4. Map showing location of Russian River sites sampled between August 2005 and October 2010 in the Russian River Basin, Mendocino and Sonoma Counties, California 8
5. Map showing the Location of tributary sites, including Dry Creek and Mark West Creek, sampled between August 2005 and August 2010 in the Lower Russian River Basin, Sonoma County, California 10
6. Map showing the location of groundwater sites sampled between August 2005 and August 2010 in the Lower Russian River Basin, Sonoma County, California 11

Tables

1. Surface-water, groundwater, and miscellaneous sites sampled in the Russian River Basin, Mendocino and Sonoma Counties, California 7
2. Major ions, selected trace elements, nutrients, and stable and radiogenic isotopes analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California 14
3. Primary uses of 59 organic wastewater compounds analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California 16
4. Primary uses of 12 human-use pharmaceuticals analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California 18
5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010 26
6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007 44
7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006 65
8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007 73
9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006 81
10. Water-quality data collected from three monitoring wells in the Lower Russian River Basin, Sonoma County, California, 2008 89
11. Water-quality data collected from miscellaneous sites in the Lower Russian River Basin, Sonoma County, California, 2006. 92

12. Enterococci concentrations and results of assays for the enterococcal surface protein (esp) human-associated marker in Enterococcus faecium for water samples collected from the Russian River and tributary sites in the Lower Russian River Basin, Sonoma County, California.....95
13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010 96
14. Concentration of organic wastewater compounds for bed sediment samples collected at three Russian River sites and one tributary site in the Lower Russian River Basin, Sonoma County, California, 2005.....102
15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and three groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010 103
16. Bacteria concentrations for water samples collected from 10 Russian River sites and Mark West Creek in the Russian River Basin, and quality-control data detected in field blanks from the Russian River Basin, Mendocino and Sonoma Counties, California, 2010 120

Conversion Factors and Abbreviations

Inch/Pound to SI

Multiply	By	To obtain
	Length	
inch (in)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
acre	4,047	square meter (m^2)
square foot (ft^2)	0.09290	square meter (m^2)
square mile (mi^2)	2.590	square kilometer (km^2)
	Volume	
gallon (gal)	3.785	liter (L)
cubic inch (in^3)	16.39	cubic centimeter (cm^3)
	Flow rate	
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
	Mass	
ounce, avoirdupois (oz)	28.35	gram (g)
pound, avoirdupois (lb)	0.4536	kilogram (kg)
	Hydraulic conductivity	
foot per day (ft/d)	0.3048	meter per day (m/d)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F=(1.8\times°C)+32$$

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

$$°C=(°F-32)/1.8$$

Vertical coordinate information is referenced to the insert datum name (and abbreviation) here for instance, “North American Vertical Datum of 1988 (NAVD 88).”

Horizontal coordinate information is referenced to the insert datum name (and abbreviation) here for instance, “North American Datum of 1983 (NAD 83).”

Altitude, as used in this report, refers to distance above the vertical datum.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius (µS/cm at 25 °C).

Concentrations of chemical constituents in water are given either in milligrams per liter (mg/L) or micrograms per liter (µg/L).

Abbreviations

AHTN	acetyl hexamethyl tetrahydronaphthalene
ANC	acid neutralizing capacity
Ag	silver
Al	aluminum
As	arsenic
B	boron
Ba	barium
Be	beryllium
Br	bromide
C	carbon
Ca	calcium
$CaCO_3$	calcium carbonate
Cd	cadmium
Cl	chloride
Co	cobalt
Cr	chromium
Cu	copper
DEET	*N, N*-diethyl-*meta*-toluamide
DO	dissolved oxygen
ESA	Federal Endanagered Species Act
F	fluoride
Fe	iron
Hg	mercury
K	potassium
Mg	magnesium
Mn	manganese
Mo	molybdenum
N	nitrogen
Na	sodium
NH_3	ammonia
NH_4	ammonium
Ni	nickel
NO_2	nitrite
NO_3	nitrate
OWCs	organic wastewater compounds
P	phosphorus
PAHs	polyaromatic hydrocarbons
Pb	lead
Sb	antimony
SC	specific conductance
Se	selenium
SiO_2	silica
SO_4	sulfate
Sr	strontium
Zn	zinc

Other Abbreviations

bgs	below ground surface
CESA	California Endangered Species Act
col/100 mL	colonies per 100 milliliters
°C	degrees Celsius
E	estimated value
FNU	formazine nephelometric units
ft	feet
ft/sec	feet per second
ft^3/sec	cubic feet per second
GIS	geographical information system
>	greater than
<	less than
L	liter
LDL	laboratory reporting limit
M	measured value
MDL	method detection limit
MF	membrane filtration
mL	milliliter
mm	millimeter
mm of Hg	millimeters of mercury
pmc	percent modern carbon
TU	tritium units (equals 1 atom of 3H in 1018 atoms hydrogen)
µg/L	micrograms per liter
µm	micrometer
µS/cm	microsiemens per centimeter
mg/L	milligrams per liter
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NTU	nephelometric turbidity units
O_2	oxygen gas
pH	log hydrogen ion concentration

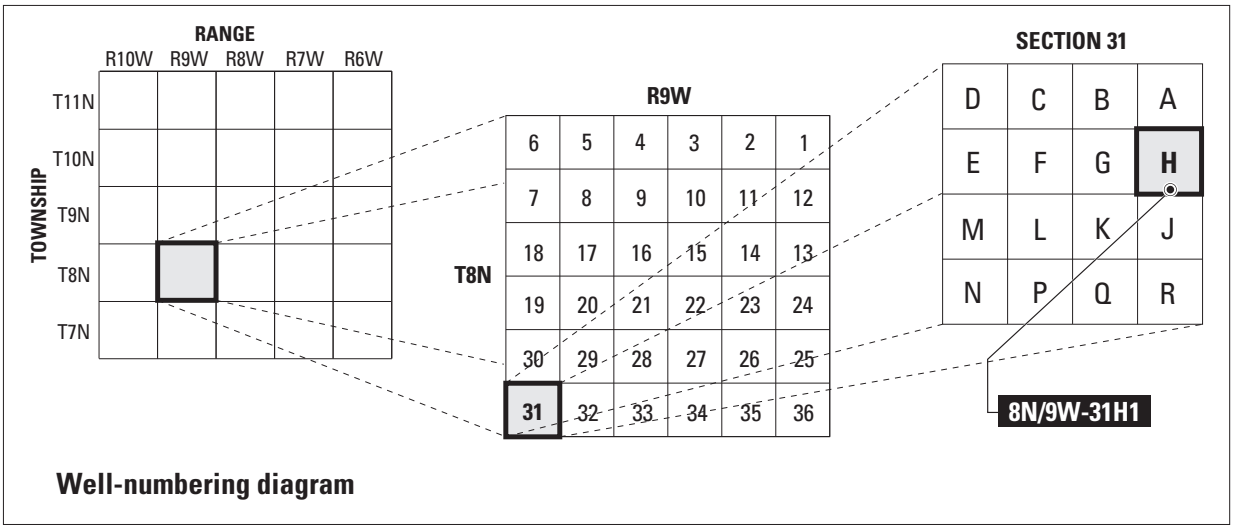
Organizations

ASTM	American Society for Testing and Materials
NMFS	National Marine Fisheries Service
NRP	National Research Program of the United States Geological Survey
NWIS	National Water Information System of the United States Geological Survey
NWQL	United States Geological Survey National Water Quality Laboratory
SCWA	Sonoma County Water Agency
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

Well-Numbering System

Wells are identified and numbered according to their location in the rectangular system for the subdivision of public lands. Identification consists of the township number, north or south; the range number, east or west; and the section number. Each section is divided into sixteen 40-acre tracts lettered consecutively (except I and O), beginning with “A” in the northeast corner of the section and progressing in a sinusoidal manner to “R” in the southeast corner. Within the 40-acre tract, wells are sequentially numbered in the order they are inventoried.

The final letter refers to the base line and meridian. In California, there are three base lines and meridians; Humboldt (H), Mount Diablo (M), and San Bernardino (S). All wells in the study area are referenced to the Humboldt base line and meridian (H). Well numbers consist of 15 characters and follow the format 008N009W031H001. In this report, well numbers are abbreviated and written 8N/9W-31H1. Wells in the same township and range are referred to only by their section designation, 31H1. The following diagram shows how the number for well 8N/9W-31H1 is derived.



Well-numbering diagram

This page intentionally left blank.

Water-Quality Data for the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010

By Robert Anders, Karl Davidek, and Donald M. Stoeckel

Abstract

Since 2003, the U.S. Geological Survey, in cooperation with the Sonoma County Water Agency, has been collecting chemical, microbiological, and isotopic data from surface-water and groundwater sites in Mendocino and Sonoma Counties, California. The investigation is being conducted to determine water-quality baseline conditions for the Russian River during the summer months and to characterize the water quality in the area of the Sonoma County Water Agency's water-supply facility where Russian River water is diverted and treated by riverbank filtration. This report is a compilation of the hydrologic and water-quality data collected from 14 Russian River sites, 8 tributary sites, 1 gravel-terrace pit site, 14 groundwater wells, and a wastewater treatment plant between the city of Ukiah and the town of Duncans Mills for the period August 2005 through October 2010.

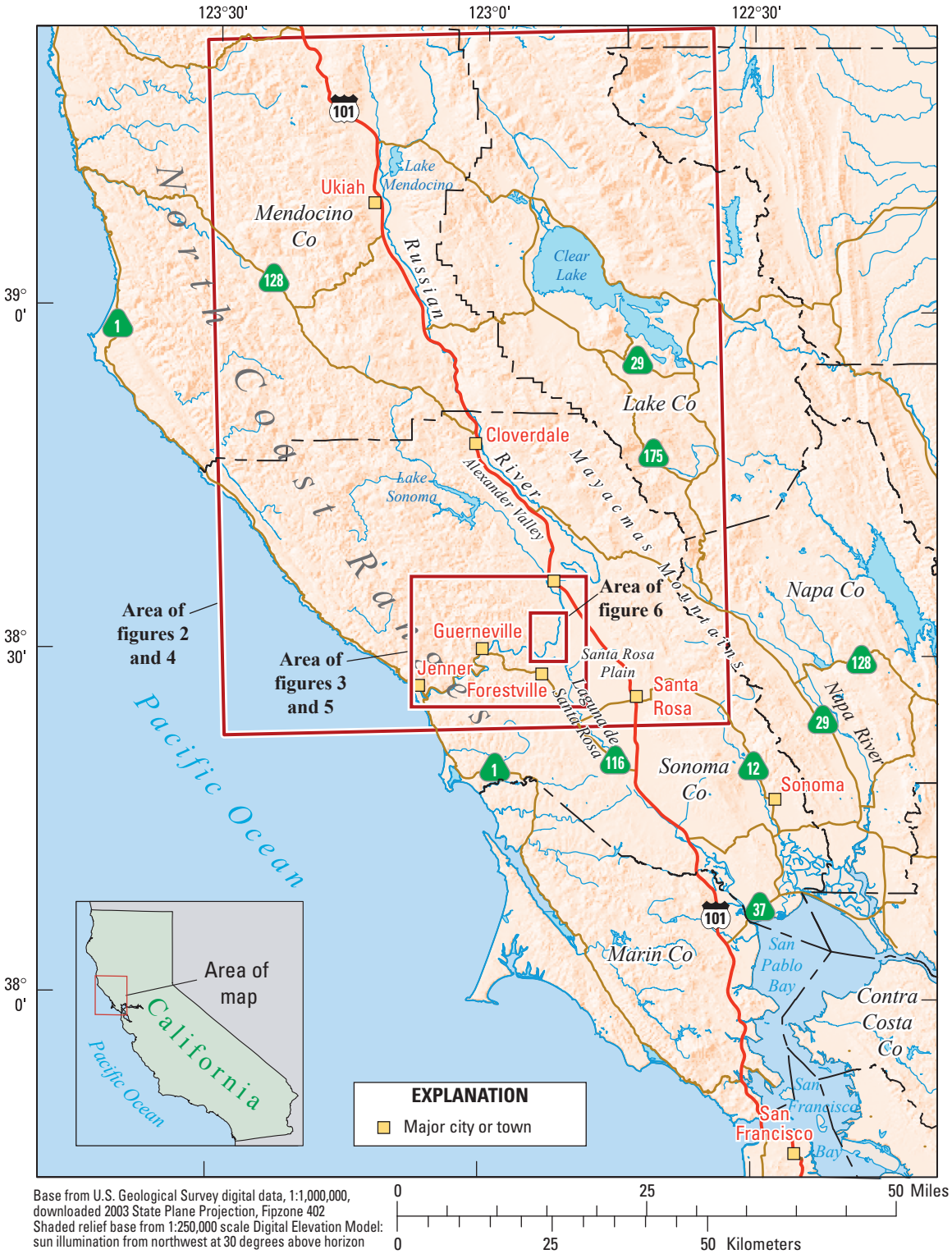
Field measurements included discharge, barometric pressure, dissolved oxygen, pH, specific conductance, temperature, and turbidity. All samples were analyzed for nutrients, major ions, trace metals, total and dissolved organic carbon, organic wastewater compounds, standard bacterial indicators, and the stable isotopes of hydrogen and oxygen. Standard bacterial indicators included total coliform, *Escherichia coli*, enterococci, and *Clostridium perfringens* for the period 2005 through 2007, and total and fecal coliform, and enterococci for 2010. In addition, enrichment of enterococci was performed on all surface-water samples collected during summer 2006, for detection of the human-associated enterococcal surface protein in *Enterococcus faecium* to assess the presence of sewage effluent in the Russian River. Other analyses included organic wastewater compounds of bed sediment samples collected from four Russian River sites during 2005; carbon-13 isotopic values of the dissolved inorganic carbon for surface-water and groundwater samples collected during 2006; human-use pharmaceuticals on Russian River samples collected during 2007 and 2010; and the radiogenic isotopes tritium and carbon-14 for groundwater samples collected during 2008.

Introduction

Background

The Russian River originates in central Mendocino County, approximately 15 miles (mi) north of Ukiah, flows south through Sonoma County, and empties into the Pacific Ocean about 20 mi west of Santa Rosa near the town of Jenner (*fig. 1*). The main channel of the Russian River has a length of 110 mi and drains approximately 1,485 square miles (mi^2) including much of the Santa Rosa Plain. The plain overlies a large alluvial groundwater basin, representing the primary source of water resources for Sonoma and northern Marin Counties (Constantz and others, 2003). Water from the Russian River exchanges freely with the vast alluvial aquifer beneath the Santa Rosa Plain due to coarse gravel deposits prevalent throughout the western portion of the basin. Climate in the area is characterized as Mediterranean, with warm, dry summers and cool, moist winters. At the National Climate Data Center station in Sonoma, the average annual temperature is 59°F, and the average annual precipitation is 30 inches (in.), occurring as rain during the winter and early spring (Kulongoski and others, 2006).

Sonoma County has experienced population growth and accelerated land development over the past few decades. The Sonoma County Water Agency (SCWA) is the primary supplier of wholesale drinking water to municipalities and water districts in Sonoma and Marin Counties. The demand for drinking water supplied by the SCWA is expected to increase during the next decade. Currently, the SCWA operates several radial collector wells adjacent to the Russian River that extract water from the underlying alluvial aquifer. Recharge to the alluvial aquifer is augmented by an inflatable dam installed in the river for part of the year, and by several infiltration ponds. By locating the SCWA water-supply facility adjacent to the Russian River, the facility takes advantage of the natural filtration process of the riverbed to treat the river water before it is distributed into the drinking-water supply. The only treatment groundwater extracted at the SCWA's water-supply facility requires is disinfection with chlorine to achieve drinking-water standards and pH adjustment to prevent pipe corrosion.



Base from U.S. Geological Survey digital data, 1:1,000,000, downloaded 2003 State Plane Projection, Fipzone 402
Shaded relief base from 1:250,000 scale Digital Elevation Model: sun illumination from northwest at 30 degrees above horizon

Figure 1. Location of the Russian River in Mendocino and Sonoma Counties, California.

Owing to the increased demand for drinking water supplied by the SCWA, there is a need to evaluate the continued reliable operation of the SCWA's water-supply facility. In addition to being the primary source of drinking water for Sonoma County, the Russian River provides habitat for three salmonid species that are listed as threatened or endangered species under the Federal Endangered Species Act (ESA): coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mykiss*), and Chinook salmon (*Oncorhynchus tshawytscha*). Coho salmon is also listed as endangered under the California Endangered Species Act (CESA). In September 2008, the National Marine Fisheries Service (NMFS) issued the Russian River Biological Opinion (Biological Opinion) regarding the impacts of SCWA's and U.S. Army Corps of Engineer's water supply and flood control operations in the Russian River watershed on the survival of these listed fish species. NMFS concluded that the historical practice of breaching the sandbar that builds up and frequently closes the mouth of the Russian River during the summer and fall may adversely affect the listed species (National Marine Fisheries Service, 2005).

The U.S. Geological Survey (USGS), in cooperation with the SCWA, began their investigation in 2003 to determine the chemical, microbiological, and isotopic composition of surface water and groundwater in selected areas of Lower Russian River Basin, Sonoma County, California. For the period August 2003 through September 2004, hydrologic and water-quality data were collected from 3 surface-water sites along the Russian River, 12 groundwater monitoring wells, and 1 gravel-terrace pit located in the area of the SCWA's water-supply facility. In addition, 7 surface-water sites within the lower segment of the Russian River, 11 tributary sites (including Mark West Creek), and 2 Russian River estuary sites, all between the town of Forestville and the Pacific Ocean, also were sampled (Anders and others, 2006).

An integral component of this ongoing USGS/SCWA cooperative study involves the collaboration with the USGS Subsurface Microbiology Laboratory (Ron Harvey, National Research Program, Boulder, Colorado) to determine the effects of grain sorting, metal oxides, and dissolved organic matter on the potential for removal of *Cryptosporidium parvum* (a protist pathogen, 3–5 µm diameter) oocysts in aquifer sediments underlying the Russian River at the water-supply facility. During July and October 2004, carboxylated microspheres were employed as surrogates to assess the transport potential of *C. parvum* oocysts during forced- and natural-gradient tracer tests conducted at the facilities where Russian River water is treated by riverbank filtration (Metge and others, 2007). In an off-channel infiltration basin and within the river, a polydisperse mixture (2-, 3-, and 5-µm diameters) of fluorescently-labeled carboxylated microspheres and bromide tracers were used in two injection and recovery tests to assess sediment removal efficiency for the microspheres. In addition, flow-through and static mini-column experiments with both formaldehyde-killed oocysts and oocyst-sized (3-µm) microspheres were performed in the Boulder laboratories by using sediments from the underlying alluvial aquifer to quantify the contribution of metal-oxide surface coatings and the poorly sorted nature of the sediment to remove oocysts (Metge and others, 2010). Such experiments provided a better understanding of the capacity of the local riverbed material and underlying alluvial aquifer to effectively reduce or eliminate river-derived microbiological contaminants in the area adjacent to the SCWA's collector wells and the infiltration ponds.

Description of Study Area

The study area for the water-quality investigation of the Russian River starts below the release of the East Fork of the Russian River from Lake Mendocino at Coyote Dam, approximately 1 mi north of the town of Ukiah, and extends to the Pacific Ocean, approximately 12 mi downstream of the town of Guerneville (*fig. 2*). The upstream reservoir, along with Lake Sonoma to the west, provides storage and flood control which reduce the seasonal variability in flow, owing to a winter rainy season and a summer dry season. The USGS currently operates three real-time water-quality monitoring stations along this reach that provide a continuous record of stream discharge, dissolved oxygen, pH, specific conductance, water temperature, and turbidity through the National Water Information System (NWIS). NWIS contains daily and peak streamflow data dating back to 1939, as well as historic water-quality data from 1951 to the present (*http://waterdata.usgs.gov/ca/nwis/*).

Two principal tributaries to the Russian River in the study area are Mark West Creek and Dry Creek. Mark West Creek is a perennial tributary that originates in the Mayacama Mountains to the east of the Santa Rosa Plain and empties into the Russian River at Mirabel Heights between the SCWA's water-supply facilities and Steelhead Beach. Mark West Creek drains the Laguna de Santa Rosa, which receives seasonal discharge from Santa Rosa's Regional Wastewater Treatment Plant. Dry Creek is a perennial tributary that originates below the release of Lake Sonora at Warner Dam and flows into the Russian River below the city of Healdsburg.

Land use in the study area is represented mostly by natural landscapes and agricultural land used primarily for pasture for livestock (cattle, sheep and poultry), hay, vineyards, flowers, nurseries and orchards (Kulongoski and others, 2006). However, other land uses and facilities include several large abandoned gravel-terrace pits that collect precipitation and surface runoff; residential and resort areas located directly adjacent to the Russian River that use individual, often antiquated, septic systems; and wastewater-treatment facilities that discharge treated wastewater effluent into Russian River tributaries. Private and municipal wells screened in the shallow alluvial aquifer also are located along the Russian River. All of these land uses and facilities could potentially influence the water quality of the Russian River, and thus also affect groundwater extracted at the SCWA's water-supply facility.

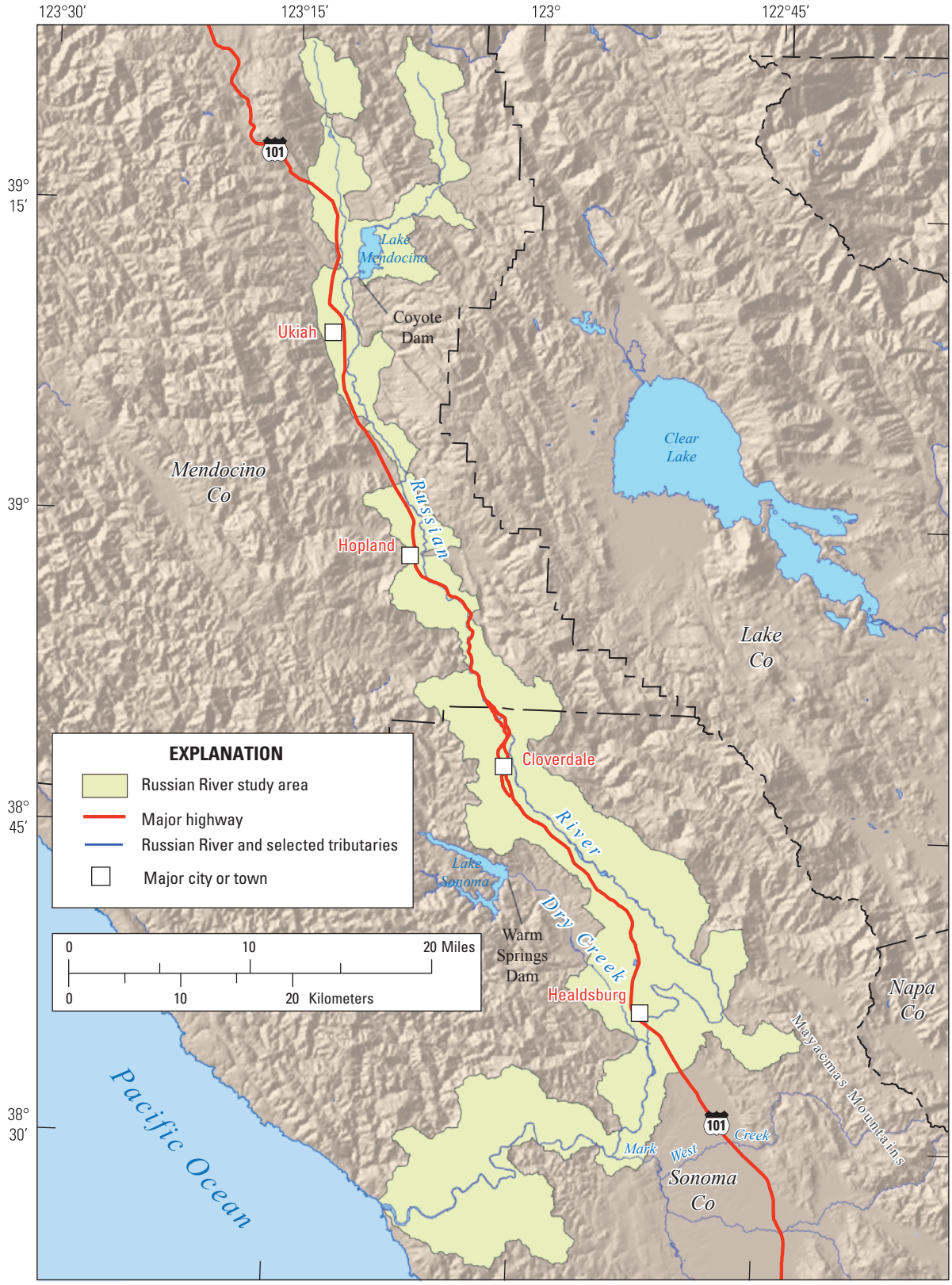


Figure 2. Location of the Russian River study area in Mendocino and Sonoma Counties, California.

At the SCWA's water-supply facility there are six radial collector wells that are designed to extract water from the alluvial aquifer beneath the Russian River (*fig. 3*). To augment the amount of recharge to the alluvial aquifer, the SCWA maintains several infiltration ponds adjacent to the Russian River. An inflatable diversion dam located in this reach of the Russian River creates a backwater that raises the upstream water level, submerges a larger streambed area along the river, and allows river water to be pumped to the infiltration ponds. This increased depth and enlargement of the submerged streambed area, in addition to providing water for the ponds, significantly increases infiltration to the underlying aquifer. The inflatable diversion dam typically is raised in the spring when water demands are increasing and Russian River discharge is declining. The dam typically is lowered in the late autumn or early winter after water demands have decreased and Russian River discharge is increasing.

Purpose and Scope

The purpose of this report is to present the hydrologic and water-quality data collected from 14 Russian River sites, 8 tributary sites, 1 gravel-terrace pit site, 14 groundwater wells, and a sewage treatment plant between the city of Ukiah and the town of Duncans Mills, for the period August 2005 through October 2010. These hydrologic and water-quality data will provide the necessary information to: (1) determine water-quality baseline conditions for the Russian River in Sonoma and Mendocino Counties during the summer months; and (2) characterize water quality in the area of the SCWA's water-supply facilities where Russian River water is diverted and treated by riverbank filtration. This information will allow the assessment of potentially significant effects on water quality that could occur as a result of permanent changes to in-stream flows and estuary management during the summer months. Potential sources of contamination in the Russian River and the predominant geochemical reactions that occur during the natural filtration process at the SCWA's water-supply facility will be discussed in subsequent reports.

The scope of this report focuses on the description of the site selections, sampling methods, and water-quality analyses used to accomplish the following: (1) collect hydrologic and water-quality data from surface-water sites along the Russian River between Lake Mendocino and the town of Duncans Mills during summer flows; (2) collect hydrologic and water-quality data from surface-water and groundwater sites along the Russian River in the vicinity of the SCWA's water-supply facility; and (3) present the quality-control data analysis used to identify any water-quality data that may have been affected by contamination or bias during sample collection, processing, storage, transportation, or laboratory analysis, as well as presenting the water-quality and quality-assurance data.

Site Selections

Table 1 contains a complete list of the station numbers and station names for the sites sampled between August 2005 and October 2010. Also provided in *table 1* is each station type (specifically, surface-water, groundwater, and miscellaneous sites). Each water-quality site (excluding miscellaneous sites) in this report is represented by a unique 8- or 15-digit identification number based on relative geographic location. The 8-digit identification numbers are assigned to regular or established stations according to the "downstream order" system for surface-water sites and the 15-digit ID numbers are used for surface-water and groundwater stations in California according to the grid system of latitude and longitude (U.S. Geological Survey, variously dated).

Surface-Water Sites

Russian River Sites

Ten surface-water sites located along the Russian River between the city of Healdsburg and the town of Duncans Mills, previously sampled between August 2003 and September 2004, were sampled again in August 2005 and September 2006 (Russian River sites). The Russian River at Odd Fellows Park site was not sampled after 2004 owing to channel erosion from winter flooding. Six surface-water sites located along the Russian River within the residential and resort areas downstream of the SCWA's water-supply facilities were sampled three other times during 2006: in early, middle, and late summer, to represent the range in conditions during summer flow. Finally, four surface-water sites located along the Russian River between Lake Mendocino and the city of Healdsburg, as well as five previously sampled Russian River surface-water sites in the Lower Russian River Basin, were sampled during 2007 and 2010 (*fig. 4*).

Russian River sites and USGS site numbers listed in downstream order include: Russian River near Ukiah (site 1, USGS 11462000) located below the release of Lake Mendocino at Coyote Dam; Russian River near Hopland (site 2, USGS 11462500) and Russian River near Cloverdale (site 3, USGS 11463000), located within the agricultural area of Alexander Valley; Russian River at Digger Bend near Healdsburg (site 4, USGS 11463980), located within the city of Healdsburg and upstream from any hydrologic influence from Healdsburg Veterans Memorial beach; Russian River below Dry Creek near Healdsburg (site 5, USGS 383502122512801), located downstream from the confluence with Dry Creek and proximal to the city of Healdsburg's wastewater treatment plant; Russian River at Riverfront Park (site 6, USGS 383132122514901), located 4 to 5 mi downstream of the city of Healdsburg's wastewater treatment plant; and Russian River at Wohler Bridge (site 7, USGS 11465400), located within the SCWA's water-supply facility.

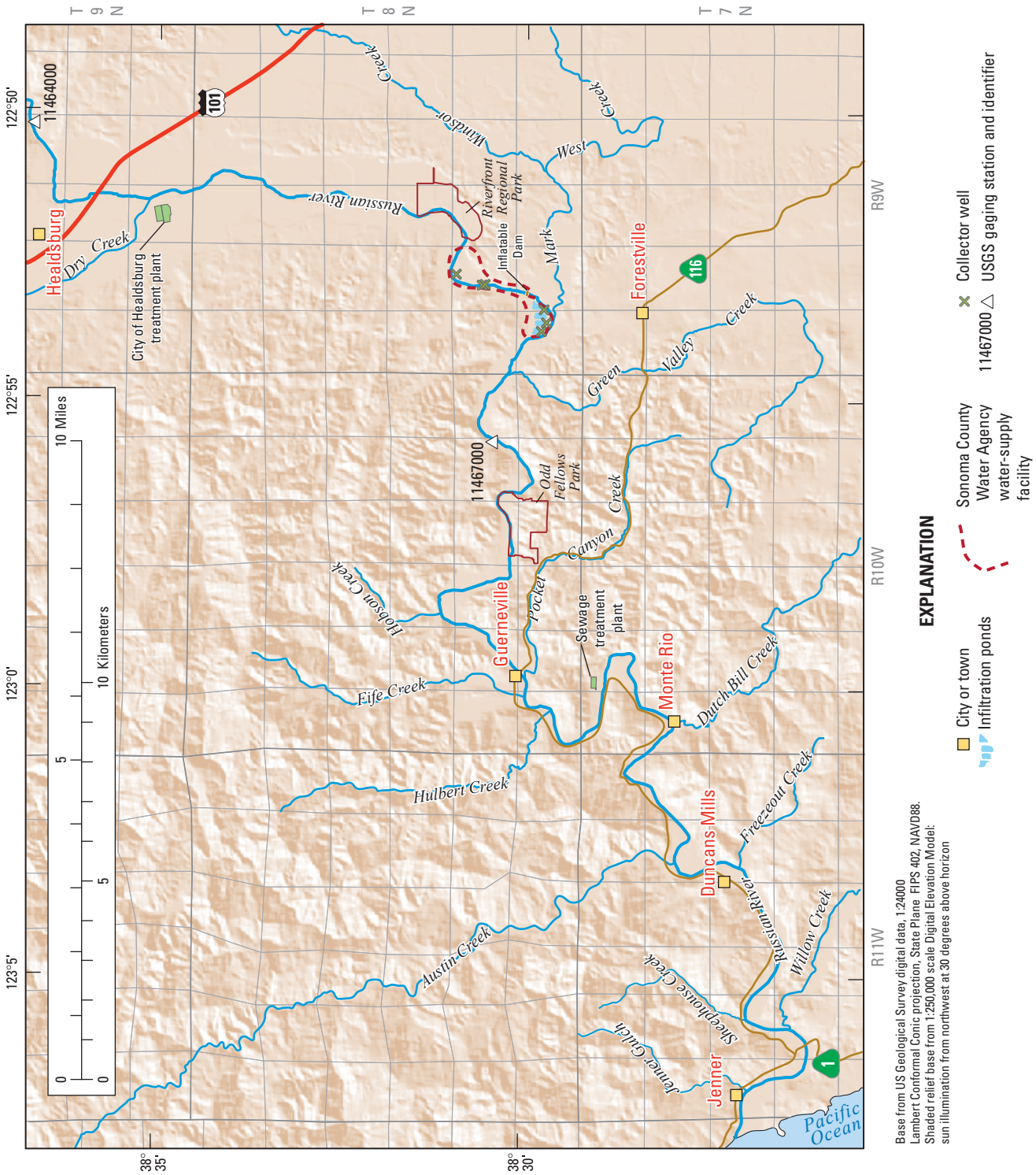


Figure 3. Location of Sonoma County Water Agency's water-supply facility near the town of Forestville in Sonoma County, California.

Table 1. Surface-water, groundwater, and miscellaneous sites sampled in the Russian River Basin, Mendocino and Sonoma Counties, California.

[SW, surface-water site; GW, groundwater site]

Map site number	Station number	Station name	Site type
1	11462000	East Fork Russian River near Ukiah CA	SW
2	11462500	Russian River near Hopland CA	SW
3	11463000	Russian River near Cloverdale CA	SW
4	11463980	Russian River at Digger Bend near Healdsburg CA	SW
5	383502122512801	Russian River below Dry Creek near Healdsburg	SW
6	383132122514901	Russian River at River Front Park	SW
7	11465400	Russian River at Wohler Bridge	SW
8	382959122535601	Russian River at Steelhead Beach	SW
9	11467000	Russian River near Guerneville	SW
10	383012122574501	Russian River at Odd Fellows Park	SW
11	11467002	Russian River at Johnson's Beach	SW
12	11467006	Russian River at Vacation Beach	SW
13	382757123003801	Russian River at Monte Rio	SW
14	382754123030501	Russian River at Casini Ranch	SW
15	383009122543001	Green Valley Creek near Mirabel	SW
16	382955122594101	Pocket Canyon Creek at Guerneville	SW
17	383006123000601	Fife Creek at Guerneville	SW
18	382944123002901	Hulbert Creek near Guerneville	SW
19	382752123003401	Dutch Bill Creek at Monte Rio	SW
20	382815123024601	Austin Creek near Duncans Mills	SW
21	11465350	Dry Creek near mouth near Healdsburg	SW
22	11466800	Mark West Creek near Mirabel Heights	SW
23	383121122512801	McLaughlin Pond near Windsor	SW
24	382944122533501	8N/9W-31H1	GW
25	382948122535601	8N/9W-31G3	GW
26	383002122530601	8N/9W-32C1	GW
27	383003122540401	8N/9W-31C3	GW
28	383003122540403	8N/9W-31C5	GW
29	383035122525901	8N/9W-29L1	GW
30	383045122525701	8N/9W-29F1	GW
31	383055122523001	8N/9W-29A2	GW
32	383120122514001	8N/9W-21K1	GW
33	383132122514501	8N/9W-21F1	GW
34	383210122513001	8N/9W-16R02	GW
35	383210122513002	8N/9W-16R03	GW
36	383210122513003	8N/9W-16R04	GW
–	–	Collector well	Miscellaneous
–	–	Treatment plant	Miscellaneous

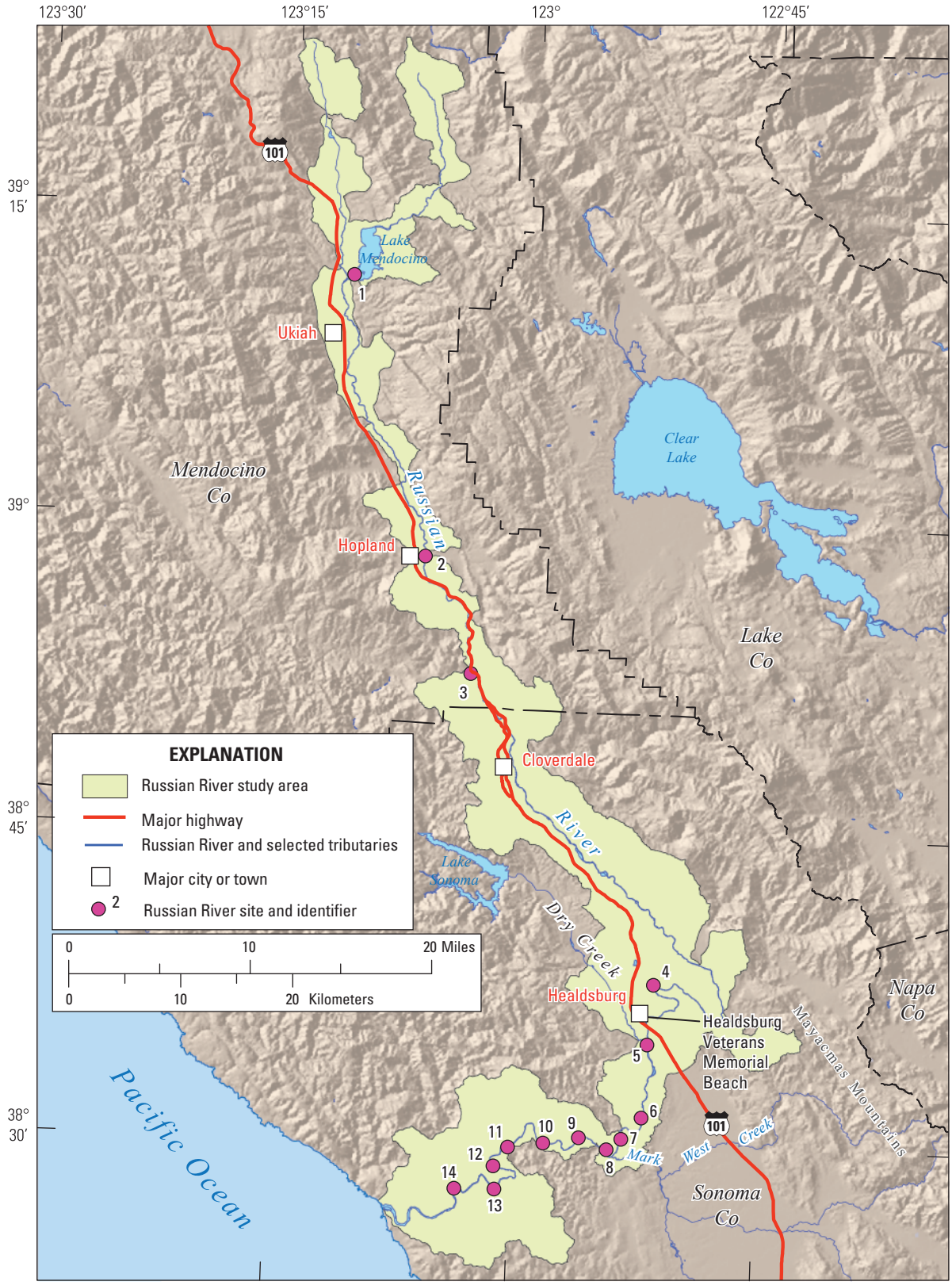


Figure 4. Location of Russian River sites sampled between August 2005 and October 2010 in the Russian River Basin, Mendocino and Sonoma Counties, California.

Russian River sites located within the residential and resort areas include: Russian River at Steelhead Beach (site 8, USGS 382959122535601) located near the SCWA's water-supply facility and downstream from the confluence with Mark West Creek; Russian River near Guerneville (site 9, USGS 11467000), located just downstream of the Hacienda Bridge; Russian River at Odd Fellows Park (site 10, USGS 383012122574501); Russian River at Johnson's Beach (site 11, USGS 11467002); Russian River at Vacation Beach (site 12, USGS 11467006); Russian River at Monte Rio (site 13, USGS 382757123003801); and Russian River at Casini Ranch (site 14, USGS 382754123030501), a private campground with private beach access located near the town of Duncans Mills and below the Austin Creek confluence (*fig. 4*). The Russian River at Casini Ranch site was the furthest downstream site sampled after 2004 in order to minimize any tidal influences from the estuary (Anders and others, 2006).

Tributary Sites

Other surface-water sites included six tributary creeks that originate from the local hillsides between the towns of Forestville and Duncans Mills (*fig. 5*). These six tributary sites were sampled during June, July, and September 2006. The selected tributary sites contained measurable surface flow to the Russian River during the first sampling event in June 2006, although several of the tributaries did not maintain measurable surface flow to the Russian River throughout the summer. The tributary site sampled only in June was Fife Creek at Guerneville (site 17, USGS 383006123000601). Other sites, such as Green Valley Creek near Mirabel (site 15, USGS 383009122543001) and Pocket Canyon Creek at Guerneville (site 16, USGS 382955122594101), were sampled in June and July 2006. Hulbert Creek near Guerneville (site 18, USGS 382944123002901), Dutch Bill Creek at Monte Rio (site 19, USGS 382752123003401), and Austin Creek near Duncans Mills (site 20, USGS 382815123024601), maintained adequate surface flow to be sampled during June, July, and August 2006. Owing to the Russian River at Casini Ranch site being the furthest downstream site after 2004, several tributary sites previously sampled in 2004 (Willow Creek, Freezeout Creek, Sheephouse Creek, and Jenner Gulch) were not sampled during 2006.

Besides the six local tributary sites, additional tributary sites that were sampled include Mark West Creek (site 22, USGS 11466800) and Dry Creek (site 21, USGS 11465350) (*fig. 5*). Mark West Creek, a principal tributary to the Russian River, was sampled eight times between 2005 and 2010. Water-quality data were collected from Dry Creek, another principal tributary to the Russian River, during August and October 2007.

Gravel-Terrace Pit Site

An additional surface-water site was McLaughlin Pond near Windsor (site 23, USGS 38121122512801), located adjacent to the Russian River in Riverfront Park, approximately 1 mi upstream of the SCWA's water-supply facility (*fig. 5*). The McLaughlin Pond is one of several gravel-terrace pits in Riverfront Park from previous industrial gravel mining. These large gravel-terrace pits can be over 80 feet (ft) deep and have been breached by river floods many times due to their proximity to the river.

Groundwater Sites

Ten previously-sampled groundwater monitoring wells (sites 26–33) in the vicinity of the SCWA's water-supply facilities were sampled between August and September 2005 and August 2006 (*fig. 6*). During July 2008, USGS personnel coordinated with the SCWA to collect water samples from three (two deep and one shallow) groundwater monitoring wells (sites 34–36) located adjacent to the Russian River approximately 1 mi upstream of the SCWA's water-supply facilities. No groundwater samples were collected during 2007 and only three previously-sampled groundwater monitoring wells (sites 26, 30, and 33) in the vicinity of the SCWA's water-supply facilities were sampled during 2010.

All the groundwater monitoring wells were selected on the basis of their proximity to the Russian River. As in previous sampling events, most of the wells sampled between August 2005 and August 2010 were within the SWCA's water-supply facilities (site 26, USGS 383002122530601; site 29, USGS 383035122525901; site 30, USGS 383045122525701; site 31, USGS 383055122523001) or within the infiltration ponds (site 24, USGS 382944122533501) (*fig. 6*). Several monitoring wells in the SCWA's water-supply facilities were potentially influenced by extraction from the collector wells and could not be sampled due to lack of water in the well bore.

Additional monitoring wells were located at Steelhead Beach (site 25, USGS 382948122535601; site 27, USGS 383003122540401; site 28, USGS 383003122540403) and Riverfront Park (site 32, USGS 383120122514001; site 33, USGS 383132122514501). Two previously sampled monitoring wells located adjacent to the Russian River below the Dry Creek confluence were filled with sand and therefore not sampled after 2004.

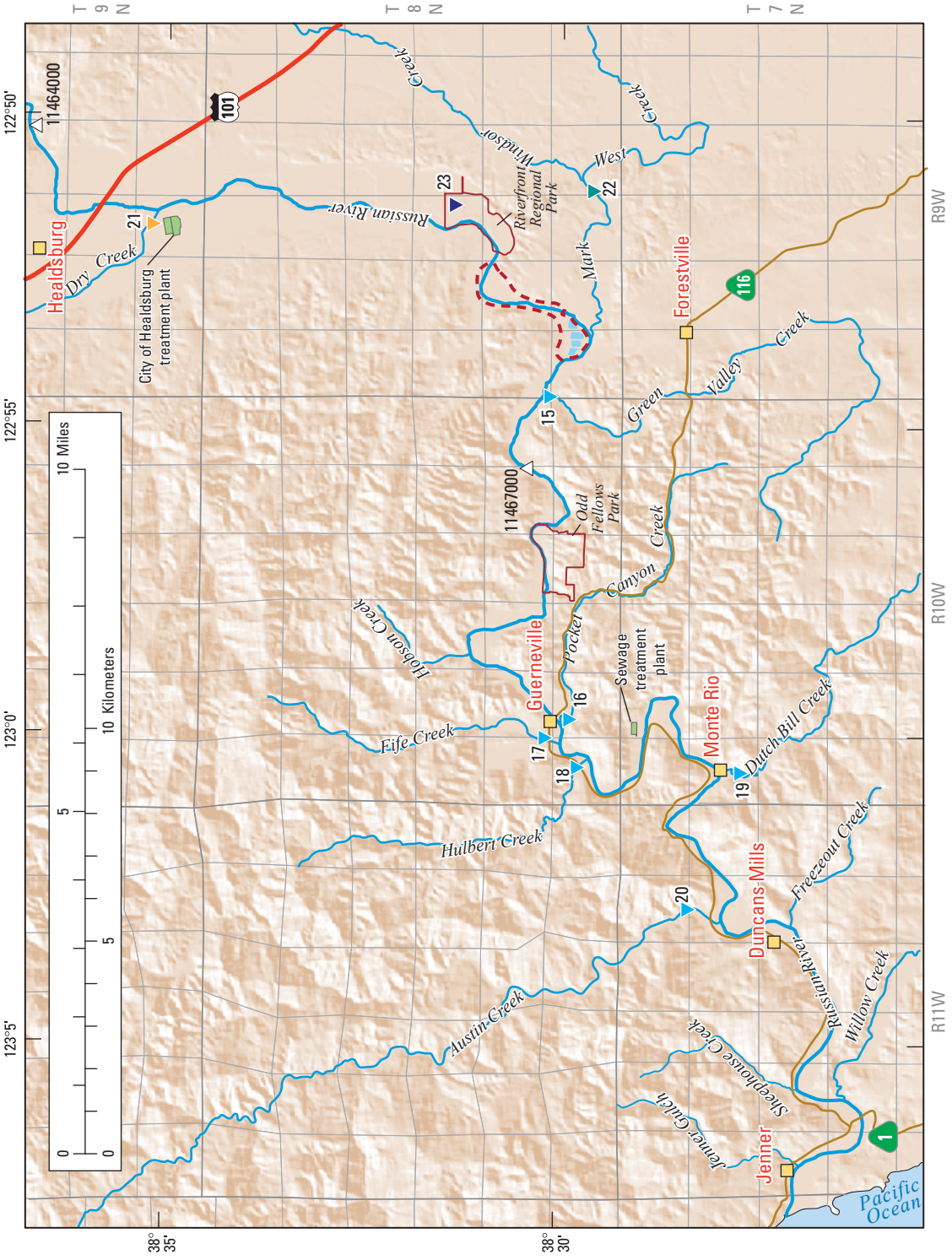


Figure 5. Location of tributary sites, including Dry Creek and Mark West Creek, sampled between August 2005 and August 2010 in the Lower Russian River Basin, Sonoma County, California.

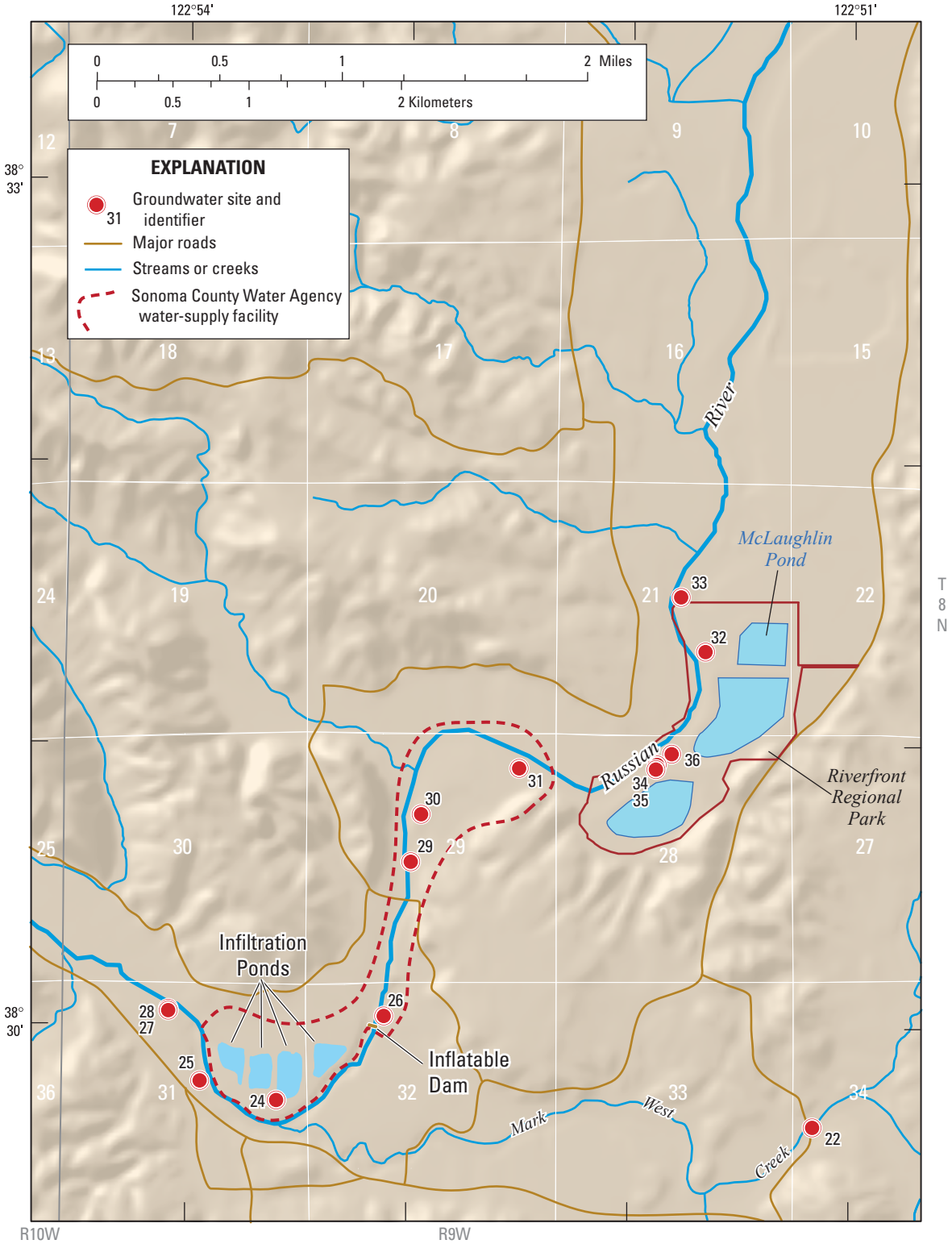


Figure 6. Location of groundwater sites sampled between August 2005 and August 2010 in the Lower Russian River Basin, Sonoma County, California.

The three groundwater monitoring wells at depths of 210 feet below ground surface (ft bgs) (site 34, USGS 383210122513001), 285 ft bgs (site 35, USGS 383210122513002) and 67 ft bgs (site 36, USGS 383210122513003) were sampled once during July 2008, in order to characterize groundwater within the Lower Russian River Basin that is not influenced by the SCWA's water-supply facilities. These groundwater samples were analyzed for all of the constituents as the monitoring wells mentioned above, as well as for the radiogenic isotopes of tritium and carbon for age dating the groundwater.

Miscellaneous Sites

Other sampling sites included the collection of a groundwater sample from a collector well (collector well site) located within the SCWA's water-supply facility and an effluent sample from a sewage treatment plant (treatment plant site) located proximal to the town of Monte Rio during 2006 (*fig. 3*). The treatment plant does not discharge directly into the Russian River during the summer months, but is allowed to discharge into the Russian River during the wet-weather season (October through May).

Methods

Discharge Measurements and Sample Collection

The collection of hydrologic and water-quality data for this study has been described previously in Anders and others (2006). Discharge measurements and surface-water samples from the Russian River were collected from vertical segments distributed across the width of the river channel by using depth- and width-integrated sampling methods as outlined in the National Field Manual for the Collection of Water-Quality Data (U.S. Geological Survey, variously dated). These methods provided an instantaneous mean discharge-weighted sample that was representative of the entire river cross-section. Sampling equipment consisted of a standard USGS depth-integrated DH-81 hand-held sampler. Water samples for microbiological analysis were collected by using sterilized 1-L polyethylene bottles, caps, and nozzles attached to the USGS depth-integrated DH-81 hand-held sampler, and the samples were chilled prior to shipment. All other water-quality samples were collected by using the DH-81 sampler with attached Teflon 1-L bottles, caps, and nozzles. Water samples for analysis of organic wastewater compounds were poured directly from the Teflon bottles into 1-L baked amber glass bottles and chilled prior to shipment. These samples were filtered at the laboratory to minimize exposure to the atmosphere during collection. The remaining water samples for chemical analysis were composited from the Teflon bottles into a pre-rinsed churn splitter and processed inside a mobile water-quality assessment vehicle. Stable isotope samples were collected by dipping the appropriate glass bottle at the river centroid. At those sites where the Russian River was ponded owing to the presence of seasonal dams, such as at USGS 11465400 (Russian River at Wohler Bridge) or at USGS 11467002 (Russian River at Johnson's Beach), no discharge measurements were made and water samples were collected directly into the appropriate sample bottles or churn splitter at a single vertical at the centroid of the river (U.S. Geological Survey, variously dated). At the McLaughlin Pond site the water samples were collected from the bank at the southeast corner.

Discharge measurements and water-sample collection from USGS 11466800 (Mark West Creek) and USGS 11465350 (Dry Creek) followed the same field-sampling procedures described above for the Russian River sites. However, discharge measurements for the remaining tributary sites were made with a Parshall 3-inch flume. Water samples collected at these sampling sites were obtained by using a peristaltic pump and C-flex tubing placed into the centroid of the tributary and upstream of the flume's discharge. These water samples were dispensed directly into the appropriate sample bottles following the same procedures as described above for the Russian River sites.

All groundwater samples were collected and processed in the field by following USGS field-sampling procedures as outlined in the National Field Manual for the Collection of Water-Quality Data (U.S. Geological Survey, variously dated). Monitoring wells were purged prior to the collection of water samples by removing a minimum of three casing volumes by using a variable-speed submersible Redi-Flo2 sampling pump (Grundfos Pumps Corp., Clovis, Calif.). During the purging process, specific conductance, pH, and temperature were monitored, using a YSI 6600 series multi-parameter sonde, and recorded at 5-minute intervals until all measurements had stabilized. When all measurements had stabilized for 20 minutes, samples for laboratory analyses were collected and the final field measurements were recorded by hand on field record sheets. Water samples were collected within a sample chamber through a short length of C-flex tubing attached to the sampling apparatus. The water samples were dispensed directly into the appropriate sample bottles by following the field-sampling procedures described above for the surface-water sites. The same procedure for dispensing the sample directly into the appropriate sample bottles was followed for the water samples collected from the two miscellaneous sites.

Water-Quality Analyses

Field Parameters

Measurements of water temperature, pH, specific conductance, dissolved oxygen, barometric pressure, and turbidity were taken during water-sample collection. A YSI 6600 series multi-parameter sonde equipped with a YSI 6560 combination conductivity/temperature sensor, a YSI 6561 pH sensor, a YSI 6562 dissolved oxygen sensor, and a YSI 6026 (prior to June 2006) or YSI 6136 turbidity sensor were used to collect water-quality parameters at all sites. The YSI 6600 series sonde sensors were calibrated daily prior to use in the field as outlined in the National Field Manual for the Collection of Water-Quality Data (U.S. Geological Survey, variously dated) and in combination with the manufacturer's recommendations. Thermistor accuracy was checked against an American Society for Testing and Minerals (ASTM) thermometer before field use, and differences were confirmed to be within ±0.2°C. The YSI 6560 conductivity sensor was calibrated by using a 1,000-µS/cm standard, and then checked with a 100-µS/cm standard to verify accuracy. The YSI 6561 pH sensor was calibrated to three points by using buffer solutions of pH 4, 7, and 10. The YSI 6562 dissolved-oxygen sensor was calibrated by using the dissolved-oxygen-calibration chamber-in-air method. The inside of the calibration chamber was wetted with water and allowed to reach 100 percent saturation prior to calibration. The YSI 6026 and 6136 turbidity probes were calibrated to two-points by using standards of 0 and 1,000 NTU. The calibrated sensor was then checked with a 50-NTU standard to confirm sensor accuracy in the range of values expected in the stream.

Common Constituents

Sample analysis for major and minor ions, selected trace elements, and nutrients was performed by the USGS National Water-Quality Laboratory (NWQL) in Denver, Colorado, using methods described by Fishman and Friedman (1989), Fishman (1993), U.S. Environmental Protection Agency (1993), Struzeski and others (1996), Patton and Truitt (2000), Patton and Kryskalla (2003), and Garbarino and others (2006). Analyses for dissolved and total organic carbon were performed by the NWQL using methods described by Brenton and Arnett (1993) and Wershaw and others (1987), respectively. Trace elements and mercury were analyzed at the NWQL using methods described by Garbarino (1999) and Garbarino and Damrau (2001). A list of the common constituents analyzed in water samples collected from Mendocino and Sonoma Counties is presented in *table 2*.

All water samples for analysis of major and minor inorganic constituents, trace elements, nutrients, dissolved and total organic carbon, and mercury were drawn from the churn splitter (surface-water sites) or collected through a short length of C-flex tubing attached to the sampling apparatus (groundwater sites) or through tubing placed directly into the creek using the peristaltic pump (tributary sites). Whole-water and filtered samples were processed in the field as outlined in the National Field Manual for the Collection of Water-Quality Data (U.S. Geological Survey, variously dated). Whole-water samples for nutrient analysis were distributed into 125-mL, pre-rinsed, clear, polyethylene bottles and acidified to approximately pH 2 by addition of sulfuric acid. Whole-water samples for total organic carbon analysis were distributed into 125-mL, baked, amber glass bottles and placed on ice prior to shipment. Other analyses requiring whole-water samples included acid-neutralizing capacity (ANC) measurements

Samples for dissolved constituents were pressure-filtered in the field through inline 0.45-µm polyether sulfone (PES) cartridge filters. Aliquots for analysis of anions were dispensed into 250-mL, clear, polyethylene bottles for storage after the bottle was rinsed three times with sample water. Aliquots for analysis of cations and trace elements were dispensed into 250-mL, acid-rinsed, clear, polyethylene bottles and acidified to approximately pH 2 by addition of nitric acid. Aliquots for nutrient analysis were distributed into 125-mL, pre-rinsed, opaque, polyethylene bottles and placed on ice to minimize microbial alteration. Aliquots for analysis of dissolved organic carbon were dispensed into 125-mL, baked, amber glass bottles and acidified to approximately pH 2 by addition of sulfuric acid. Aliquots for mercury analysis were dispensed into 250-mL, acid-rinsed, clear glass bottles and acidified to approximately pH 2 by addition of hydrochloric acid.

Stable Isotopes of Hydrogen, Carbon, and Oxygen

Stable isotopes of hydrogen and oxygen can be used to distinguish precipitation that originated from different locations. The samples for analysis of stable hydrogen and oxygen isotopes were collected into 60-mL glass bottles and were sealed with a polyseal cap to minimize evaporative loss and exchange with the atmosphere. These samples were analyzed at the USGS Isotope Laboratory in Reston, Virginia, (through arrangements with the NWQL) using methods described by Epstein and Mayeda (1953) and Coplen and others (1991). Stable hydrogen and oxygen isotope concentrations are expressed in terms of per mil, relative to Vienna Standard Mean Ocean Water (Gonfiantini, 1984), and the estimate of precision (two-sigma) is 2 and 0.2 per mil, respectively.

Table 2. Major ions, selected trace elements, nutrients, and stable and radiogenic isotopes analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California.

[The U.S. Geological Survey (USGS) parameter code is a 5-digit number assigned for identification and data storage purposes, which is used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. This report contains CAS Registry Numbers®, which is a Registered Trademark of the American Chemical Society. CAS recommends the verification of the CASRNs through CAS Client Services℠. –, CAS number is not assigned; the laboratory reporting level is in milligrams per liter (mg/L), micrograms per liter (µg/L), per mil, picocuries per liter (pCi/L), or percent modern carbon (pmc)]

Compound	USGS parameter code	CAS number	Laboratory reporting level	Units
Major ions and selected trace elements				
Acid neutralizing capacity (ANC), laboratory	90410	471-34-1	8	mg/L
Aluminum	01106	7429-90-5	4	µg/L
Antimony	01095	7440-36-0	0.04	µg/L
Arsenic	01000	7440-38-2	0.06	µg/L
Barium	01005	7440-39-3	0.4	µg/L
Beryllium	01010	7440-41-7	0.02	µg/L
Boron	01020	7440-42-8	4	µg/L
Bromide	71870	24959-67-9	0.02	mg/L
Cadmium	01025	7440-43-9	0.02	µg/L
Calcium	00915	7440-70-2	0.02	mg/L
Chloride	00940	16887-00-6	0.12	mg/L
Chromium	01030	7440-47-3	0.12	µg/L
Cobalt	01035	7440-48-4	0.02	µg/L
Copper	01040	7440-50-8	1	µg/L
Fluoride	00950	16984-48-8	0.08	mg/L
Iron	01046	7439-89-6	4	µg/L
Lead	01049	7439-92-1	0.06	µg/L
Lithium	01130	7439-93-2	1	µg/L
Magnesium	00925	7439-95-4	0.012	mg/L
Manganese	01056	7439-96-5	0.2	µg/L
Mercury	71890	7439-97-6	0.01	µg/L
Molybdenum	01060	7439-98-7	0.02	µg/L
Nickel	01065	7440-02-0	0.12	µg/L
Potassium	00935	7440-09-7	0.06	mg/L
Residue, 180 degrees Celsius (total dissolved solids)	70300	–	10	mg/L
Selenium	01145	7782-49-2	0.06	µg/L
Silica	00955	7631-86-9	0.02	mg/L
Silver	01075	7440-22-4	0.008	µg/L
Sodium	00930	7440-23-5	0.12	mg/L
Strontium	01080	7440-24-6	0.8	µg/L
Sulfate	00945	14808-79-8	0.18	mg/L
Thallium	01057	7440-28-0	0.04	µg/L
Uranium, natural	22703	7440-61-1	0.006	µg/L
Vanadium	01085	7440-62-2	0.16	µg/L
Zinc	01090	7440-66-6	2	µg/L
Nutrients				
Nitrogen, ammonia as N	00608	7664-41-7	0.02	mg/L
Nitrogen, ammonia + organic nitrogen, total	00625	17778-88-0	0.1	mg/L
Nitrogen, ammonia + organic nitrogen	00623	17778-88-0	0.1	mg/L
Nitrogen, nitrite	00613	14797-65-0	0.002	mg/L
Nitrogen, nitrite + nitrate	00631	–	0.04	mg/L
Organic carbon, dissolved	00681	–	0.4	mg/L
Organic carbon, total	00680	–	0.6	mg/L
Phosphorus	00666	7723-14-0	0.006	mg/L
Phosphorus, orthophosphate	00671	14265-44-2	0.008	mg/L
Phosphorus, total	00665	7723-14-0	0.008	mg/L

Table 2. Major ions, selected trace elements, nutrients, and stable and radiogenic isotopes analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California.—Continued

[The U.S. Geological Survey (USGS) parameter code is a 5-digit number assigned for identification and data storage purposes, which is used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. This report contains CAS Registry Numbers®, which is a Registered Trademark of the American Chemical Society. CAS recommends the verification of the CASRNs through CAS Client Services℠. –, CAS number is not assigned; the laboratory reporting level is in milligrams per liter (mg/L), micrograms per liter (µg/L), per mil, picocuries per liter (pCi/L), or percent modern carbon (pmc)]

Compound	USGS parameter code	CAS number	Laboratory reporting level	Units
Stable and radiogenic isotopes				
Carbon-13	82081	–	–	per mil
Carbon-14	49933	14762-75-5	–	pmc
Carbon-14, counting error	49934	–	–	pmc
Hydrogen	82082	–	–	per mil
Oxygen	82085	–	–	per mil
Tritium, 2-sigma error	75985	–	–	pCi/L
Tritium	07000	10028-17-8	1	pCi/L

To better understand the geochemical reactions that occur during riverbank filtration, surface- and groundwater samples were collected during 2006 for the determination of carbon-13 values of the dissolved inorganic carbon. The use of carbon-13 isotopes has been shown to be an especially powerful tracer to distinguish the chemical evolution of waters that have traveled along different flowpaths (Bullen and Kendall, 1998). The water samples for analysis of carbon-13 were collected into 40-mL glass bottles in duplicate. These samples were not filtered. All carbon-13 analyses were performed at the University of Waterloo Environmental Isotope Laboratory in Ontario, Canada, by accelerator mass spectrometry (through arrangements with the NWQL). Results of the carbon-13 determination are reported in per mil relative to the Vienna PeeDee belemnite standard (Coplen, 1994).

Radiogenic Isotopes of Tritium and Carbon

Groundwater samples intended for the analysis of tritium were collected in 1-L polyethylene bottles and sealed with a polyseal cap to minimize exchange with the atmosphere. The samples were not filtered. These samples were analyzed at the USGS Isotope Tracers Laboratory in Menlo Park, California, (through arrangements with the NWQL) by liquid scintillation after electrolytic enrichment as described by Ostlund and Dorsey (1977) and Ostlund and others (1987). The activity of tritium is reported in terms of tritium units (TU) with a two-sigma estimate of precision.

Groundwater samples for analysis of carbon-14 were collected in 1-L amber glass bottles. Samples were filtered in the field through a PES capsule filter and sealed with a Teflon-septa cap. The bottle was bottom-filled and allowed to overflow to several times the bottle volume. All carbon-14 analyses were performed at the University of Waterloo Environmental Isotope Laboratory in Ontario, Canada, by accelerator mass spectrometry (through arrangements with the NWQL). The activity of carbon-14, expressed as percent modern carbon (pmc), is reported with a one-sigma estimate of precision relative to the 1950 National Bureau of Standards oxalic acid standard (Stuiver and Polach, 1977; Wigley and Muller, 1981).

Microbiological Indicators

Water samples collected between 2005 and 2007 for analysis of the standard bacterial indicators of fecal contamination in surface-water and groundwater were shipped overnight on ice to the USGS Ohio Water Science Center Microbiology Laboratory. The average time between collection and microbial analysis was about 26 hours, which exceeds the 8-hour ideal holding time, owing to shipping considerations. However, because all of the samples were subjected to the same approximate delay, the results show comparative distributions in microbial populations, and concentrations reported herein should be used for comparative purposes only, not for regulatory purposes. Total coliform bacteria were analyzed using the mENDO method, a method considered suitable for enumerating bacteria in environmental samples (Britton and Greeson, 1989). *Escherichia coli* (*E. coli*) were analyzed using the modified mTEC method, specifically developed to be used as a measure of recreational water quality (USEPA method 1603; U.S. Environmental Protection Agency, 2002a). Other microbiological analysis included membrane filtration on mEI agar for presence and concentration of *Enterococcus spp.* (USEPA method 1600; U.S. Environmental Protection Agency, 2002b) and the mCP method for the detection of *Clostridium perfringens* (Bisson and Cabelli, 1979; 1980).

During 2010, surface-water samples collected for microbial analysis were placed on ice immediately and delivered to Alpha Analytical Laboratories, Inc. (Ukiah, California) in order to avoid exceeding the 8-hour holding times. These water samples were analyzed for the standard bacterial indicators total and fecal coliform by using standard methods SM9221 and enterococci by using standard methods SM9230 (American Public Health Association, 1985).

Molecular Biomarkers

Several genotypic and phenotypic methods are available to differentiate groups of microorganisms on the basis of the host animal or environment from which they are derived. For water samples collected from the Russian River and tributary sites in the Lower Russian River Basin during summer 2006, polymerase chain reaction (PCR) assay of a putative virulence factor, the enterococcal surface protein (*esp*) in *Enterococcus (E.) faecium*, was used as an index of human fecal pollution (Scott and others, 2005). Water samples were analyzed at the USGS Ohio Water Microbiology Laboratory for presence and concentration of *Enterococcus spp.* by using membrane filtration on mEI agar. Enterococci colonies retained on the membrane filters were further enriched in broth, and the DNA extracted from the enrichment cultures was amplified using PCR and tested for the *esp* marker. For water samples expected to have a concentration below about 50 enterococci col/100 mL (colonies per 100 mL), based on previous data, 300 mL of sample were passed through the membrane filter. The primers specific for the *E. faecium esp* gene target populations of microorganisms cultured from fecal samples of human origin. Therefore, the signal provided by this molecular biomarker can be used to determine whether tributaries are potential sources of microbial contamination to the Russian River during the summer months.

Organic Wastewater Compounds

Water Samples

Water samples were collected between 2005 and 2010 and analyzed for specific constituents known to be present in wastewater or associated with agricultural practices, which we refer to as organic wastewater compounds (OWCs). This suite of constituents includes polyaromatic hydrocarbons (PAHs), disinfection-by-products (DBPs), pesticides and herbicides, as well as personal care and household products such as fragrances and detergents. The OWCs were analyzed at the NWQL by solid-phase extraction and capillary-column gas chromatography/mass spectrometry (Zaugg and others, 2002). A list of the 59 OWCs analyzed in water samples collected in Mendocino and Sonoma Counties is presented in *table 3*. Also included in *table 3* are primary compound uses adopted from Zaugg and others (2002).

Table 3. Primary uses of 59 organic wastewater compounds analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California.

[The U.S. Geological Survey (USGS) parameter code is a 5-digit number assigned for identification and data storage purposes, which is used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. CAS, Chemical Abstract Services number assigned by the American Chemical Society for identification and computer search purposes; –, CAS number not assigned; the laboratory reporting level is in micrograms per liter (µg/L). Lower values may be reported as estimated concentrations, indicated with an "E," if the compound is present]

Compound	USGS parameter code	CAS number	Laboratory reporting level	Uses [1]
1,4-Dichlorobenzene	34572	106-46-7	0.04	Deodorizer
1-Methylnaphthalene	62054	90-12-0	0.04	Fuels
2,6-Dimethylnaphthalene	62055	581-42-0	0.12	Fuels
2-Methylnaphthalene	62056	91-57-6	0.04	Fuels
3-β-Coprostanol	62057	360-68-9	2	Fecal sterol
3-Methyl-1H-indole (skatol)	62058	83-34-1	0.04	Fragrance
3-*tert*-Butyl-4-hydroxyanisole	62059	25013-16-5	0.6	Antioxidant
4-Cumylphenol	62060	599-64-4	0.1	Detergent metabolite
4-*n*-Octylphenol	62061	1806-26-4	0.16	Detergent metabolite
4-Nonylphenol	62085	84852-15-3	2	Detergent metabolite
4-Nonylphenol diethoxylates	62083	–	5	Detergent metabolite
4-*tert*-Octylphenol diethoxylates	61705	–	1	Detergent metabolite
4-*tert*-Octylphenol monoethoxylates	61706	–	1	Detergent metabolite
4-*tert*-Octylphenol	62062	140-66-9	1.4	Detergent metabolite
5-Methyl-1H-benzotriazole	62063	136-85-6	2	Anticorrosive

Table 3. Primary uses of 59 organic wastewater compounds analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California.—Continued

[The U.S. Geological Survey (USGS) parameter code is a 5-digit number assigned for identification and data storage purposes, which is used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. CAS, Chemical Abstract Services number assigned by the American reporting level is in micrograms per liter (µg/L)]

Compound	USGS parameter code	CAS number	Laboratory reporting level	Uses [1]
Acetophenone	62064	98-86-2	0.4	Fragrance
Acetyl hexamethyl tetrahydronaphthalene (AHTN)	62065	21145-77-7	0.5	Fragrance
Anthracene	34221	120-12-7	0.04	Combustion product
Anthraquinone	62066	84-65-1	0.16	Manufacturing
Benzo[*a*]pyrene	34248	50-32-8	0.08	Combustion product
Benzophenone	62067	119-61-9	0.12	Fixative
β-Sitosterol	62068	83-46-5	4	Plant sterol
β-Stigmastanol	62086	19466-47-8	2	Plant sterol
Bromacil	04029	314-40-9	1	Herbicide
Caffeine	50305	58-08-2	0.1	Stimulant
Camphor	62070	76-22-2	0.06	Flavorant
Carbaryl	82680	63-25-2	1	Insecticide
Carbazole	62071	86-74-8	0.04	Insecticide
Chlorpyrifos	38933	2921-88-2	0.12	Insecticide
Cholesterol	62072	57-88-5	2	Plant/animal sterol
Cotinine	62005	486-56-6	0.4	Nicotine metabolite
Diazinon	39572	333-41-5	0.08	Insecticide
d-Limonene	62073	5989-27-5	0.14	Fungicide
Fluoranthene	34377	206-44-0	0.04	Combustion product
Hexahydrohexamethyl cyclopentabenzopyran (HHCB)	62075	1222-05-5	0.5	Fragrance
Indole	62076	120-72-9	0.08	Pesticide inert
Isoborneol	62077	124-76-5	0.18	Fragrance
Isophorone	34409	78-59-1	0.08	Solvent
Isopropylbenzene (cumene)	62078	98-82-8	0.2	Fuels
Isoquinoline	62079	119-65-3	0.4	Flavorant
Menthol	62080	89-78-1	0.4	Fragrance
Metalaxyl	50359	57837-19-1	0.12	Fungicide
Methyl salicylate	62081	119-36-8	0.1	Liniment
Metolachlor	39415	51218-45-2	0.08	Herbicide
N-*N*-Diethyl-*meta*-toluamide (DEET)	62082	134-62-3	0.14	Insect repellant
Naphthalene	34443	91-20-3	0.04	Combustion product
para-Cresol	62084	106-44-5	0.18	Wood preservative
Phenanthrene	34462	85-01-8	0.04	Combustion product
Prometon	04037	1610-18-0	0.2	Herbicide
Pyrene	34470	129-00-0	0.04	Combustion product
Tetrachloroethene	34476	127-18-4	0.12	Solvent, degreaser
Tribromomethane	34288	75-25-2	0.1	Chemical intermediate and solvent
Tributyl phosphate	62089	126-73-8	0.2	Flame retardant
Triclosan	62090	3380-34-5	0.2	Antimicrobial disinfectant
Triethyl citrate	62091	77-93-0	0.4	Cosmetics
Triphenyl phosphate	62092	115-86-6	0.12	Plasticizer
Tris(2-butoxyethyl) phosphate	62093	78-51-3	0.8	Plasticizer
Tris(2-chloroethyl) phosphate	62087	115-96-8	0.1	Flame retardant
Tris(dichloroisopropyl) phosphate	62088	13674-87-8	0.12	Flame retardant

[1]Adapted from Zaugg and others (2002).

Bed Sediment Samples

Bed sediment samples were collected at three Russian River sites and one tributary site during 2005: Russian River at Wohler Bridge (USGS 11465400); Russian River at Johnson's Beach (USGS 11467002); Russian River at Monte Rio (USGS 382752123003401); and Mark West Creek (USGS 11466800). Samples were collected at these locations owing to the presence of flow impairments (seasonal dams or bridge supports) that allow for the accumulation of bed sediment (*figs. 4* and *5* [see *tables 5–16* at back of report]). The samples were collected by scooping approximately 1 kilogram of bed sediment using a stainless steel shovel into a stainless steel bucket. The sediment was sieved using a Number 60 U.S.A. Standard Testing Sieve to remove any material larger than about 250 µm and the excess water was decanted from the bucket. Then, approximately 20 grams of the remaining fine-grained material was transferred into large-mouth glass bottles and placed on ice prior to shipment. The bed sediment samples were analyzed at the NWQL for OWCs by using pressurized solvent extraction, solid-phase extraction, and capillary-column gas chromatography/mass spectrometry following the method described above for water samples (Burkhardt and others, 2006).

Human-Use Pharmaceuticals

Water samples for analysis of human-use pharmaceuticals were collected in 1-L baked amber glass bottles by using methods similar to the collection of water samples for analysis of organic wastewater compounds. The human-use pharmaceuticals were analyzed by using chemically-modified styrene-divinylbenzene resin-based solid-phase extraction and high-performance liquid chromatography/mass spectrometry (Furlong and others, 2008). A list and primary uses of 12 human-use pharmaceuticals analyzed in surface-water samples collected in Mendocino and Sonoma Counties during 2007 and 2010 is presented in *table 4*.

Data Reporting

The following section details the laboratory reporting conventions.

Reporting Limits

The USGS NWQL uses the laboratory reporting level (LRL) as a threshold for reporting analytical results. The LRL is set to minimize the reporting of false negatives (not detecting a compound when it actually is present in a sample) to less than 1 percent (Childress and others, 1999). The LRL usually is set at two times the long-term method detection level (LT-MDL). The LT-MDL is derived from the standard deviation of at least 24 MDL determinations made over an extended period of time. LT-MDLs continually are monitored and updated. The method detection level (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the concentration is greater than zero (at the MDL there is less than a 1 percent chance of a false positive) (Childress and others, 1999). The USGS NWQL updates LRL values regularly and the values listed in this report were in effect during the period analyses were made for water samples from San Diego County, California, 2001–2009.

Table 4. Primary uses of 12 human-use pharmaceuticals analyzed in water samples collected from the Russian River Basin, Mendocino and Sonoma Counties, California.

[The U.S. Geological Survey (USGS) parameter code is a 5-digit number assigned for identification and data storage purposes, which is used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. CAS, Chemical Abstract Services number assigned by the American Chemical Society for identification and computer search purposes. The laboratory reporting level is in micrograms per liter (µg/L)]

Compound	USGS parameter code	CAS number	Laboratory reporting level	Uses
1,7-Dimethylxanthine	62030	611-59-6	0.12	Precursor is a stimulant
Albuterol	62020	18559-94-9	0.06	Bronchodilator
Acetaminophen	62000	103-90-2	0.08	Analgesic
Carbamazepine	62793	298-46-4	0.04	Antiepileptic
Codeine	62003	76-57-3	0.04	Opiate agonist
Dehydronifedipine	62004	67035-22-7	0.08	Precursor is a antianginal
Diltiazem	62008	42399-41-7	0.08	Antihypertensive
Diphenhydramine	62796	147-24-0	0.04	Antipruritic
Sulfamethoxazole	62021	723-46-6	0.16	Antibiotic
Thiabendazole	62801	148-79-8	0.06	Anthelmintic, fungicide
Trimethoprim	62023	738-70-5	0.02	Antibiotic
Warfarin	62024	81-81-2	0.1	Anticoagulant, rodenticide

Detections between the LRL and the LT-MDL are reported as "estimated" concentrations (designated with an "E" before the values in the tables and text). For information-rich methods, detections below the LT-MDL have high certainty of detection, but the precise concentration is uncertain. Information-rich methods are those that utilize gas chromatography or high-performance liquid chromatography (HPLC) with mass spectrometry detection (OWCs and pharmaceutical compounds). Compounds are identified by presence of characteristic fragmentation patterns in their mass spectra in addition to being quantified by measurement of peak areas at their associated chromatographic retention times. E-coded values also may result from detections outside the range of calibration standards, for detections that did not meet all laboratory quality-control criteria, and for samples that were diluted prior to analysis (Childress and others, 1999).

Quality-Control Data Analysis

Quality-control (QC) samples were collected to assess the bias and variability of the water-quality data collected during the study. QC sample types used during this study period included 11 field blanks and 3 sequential replicate samples. Field blanks were collected to assess bias that could be introduced during sample collection and analysis. All field blanks were collected at the sampling site by using deionized water (DIW) supplied by the USGS Ukiah field office that was then subjected to the same sampling equipment, field processing, preservation, storage and transportation, and laboratory analysis described above for the collection of environmental samples. The DIW was tested prior to being used and met the minimum requirements for DIW quality of filtered water (Office of Water Quality, 1991). Field blanks were collected for nutrients, major ions, trace metals, organic wastewater compounds, and standard bacterial indicators. The constituents detected in the 11 field blanks are presented in *table 5*.

Surface-Water Blanks

Surface-water blanks were collected at eight sites (approximately 10 percent of the surface-water sites sampled). All field blanks were collected for analysis of nutrients (*table 2*). Dissolved ammonia was detected in three field blanks at E0.008 mg/L, E0.008 mg/L, and 0.017 mg/L, respectively. The later detection was used to establish a qualifying threshold of 0.027 mg/L (maximum field blank detection plus one-half the LRL). Dissolved organic nitrogen plus ammonia was detected in two field blanks at E0.07 mg/L and 0.2 mg/L, respectively. The later detection was used to establish a qualifying threshold of 0.25 mg/L (maximum field blank detection plus one-half the LRL). Dissolved nitrite was detected in one field blank at E0.001 mg/L. This blank detection resulted in a qualifying threshold of 0.002 mg/L (field blank detection plus one-half the LRL). Dissolved phosphorous was detected in one field blank at E0.004 mg/L. This blank detection resulted in a qualifying threshold of 0.006 mg/L (field blank detection plus one-half the LRL). Dissolved orthophosphate was detected in one field blank at E0.003 mg/L. This blank detection resulted in a qualifying threshold of 0.006 mg/L (field blank detection plus one-half the LRL). Based on these results, detections of dissolved nutrients (ammonia, organic nitrogen plus ammonia, nitrite, phosphorous, and orthophosphate) below their established qualifying threshold in surface-water samples could have resulted from unintended sample contamination and concentrations measured in the whole water samples are preferred for any interpretation.

All field blanks were collected for analysis of major ions and trace metals (*table 2*). Magnesium was detected in one field blank at E0.004 mg/L. This blank detection resulted in a qualifying threshold of 0.014 mg/L (field blank detection plus one-half the LRL). Silica was detected in one field blank at E3 mg/L. This blank detection resulted in a qualifying threshold of 0.05 mg/L (field blank detection plus one-half the LRL). Barium was detected in two field blanks at E0.1 µg/L and 0.22 µg/L, respectively. The later detection was used to establish a qualifying threshold of 0.42 µg/L (maximum field blank detection plus one-half the LRL). Manganese was detected in one field blank at E0.2 µg/L. This blank detection resulted in a qualifying threshold of 0.3 µg/L (field blank detection plus one-half the LRL). All surface-water samples were above the established qualifying threshold (field blank detection plus one-half the LRL) for these major ions and trace metals (magnesium, silica, barium, and manganese) therefore, these blank detections did not result in the qualifying of any surface-water samples. Chromium was detected in one field blank at E0.03 µg/L. This blank detection resulted in a qualifying threshold of 0.09 µg/L (field blank detection plus one-half the LRL). Cobalt was detected in three field blanks at 0.28 µg/L, 0.14 µg/L, and 0.04 µg/L. The former detection was used to establish a qualifying threshold of 0.30 µg/L (maximum field blank detection plus one-half the LRL). Iron was detected in one field blank at E3 µg/L. This blank detection resulted in a qualifying threshold of 7 µg/L (field blank detection plus one-half the LRL). Mercury was detected in one field blank at 0.012 µg/L. This blank detection resulted in a qualifying threshold of 0.017 µg/L (field blank detection plus one-half the LRL). Based on these results, detections of these trace metals (chromium, cobalt, iron, and mercury) below their established qualifying threshold in surface-water samples could have resulted from unintended sample contamination.

All field blanks were collected for analysis of organic wastewater compounds (*table 3*). Acetophenone was detected in four field blanks at 1.3 µg/L, E0.2 µg/L, E0.2 µg/L, and 0.7 µg/L. The former detection was used to establish a qualifying threshold of 1.5 µg/L (maximum field blank detection plus one-half the LRL). Based on these results, detections of acetophenone below their established qualifying threshold in surface-water samples could have resulted from unintended sample contamination.

Field blanks were collected at five of the surface-water sites for analysis of bacterial indicators. Prior to every sampling event, 1 L of DI water is sterilized in the laboratory and taken to the field where it is dispensed into the appropriate sample container. Total coliform bacteria were detected in the field blank collected August, 2006, at 44 col/100 mL; there were no other detections of bacterial indicators in any field blanks. The lack of detection of any bacterial indicators in other surface-water field blanks suggests the contamination was caused by inadequate sterilization of the blank water used for the August, 2006, sampling event. After August, 2006, the sterilization time was increased during the preparation of the blank water to avoid future contamination. Based on these results, concentrations of total coliform bacteria measured during August, 2006, could be increased and concentrations of the other bacterial indicators are preferred for any interpretation. However, no such considerations are necessary for other concentrations of bacterial indicator measured in the surface-water samples.

Groundwater Blanks

Groundwater blanks were collected at three sites (approximately 12 percent of the groundwater sites sampled). All field blanks were collected for analysis of nutrients (*table 2*). Dissolved organic nitrogen plus ammonia was detected in one field blank at 0.12 mg/L. This blank detection resulted in a qualifying threshold of 0.17 mg/L (field blank detection plus one-half the LRL). Total organic nitrogen plus ammonia was detected in one field blank at E0.06 mg/L. This blank detection resulted in a qualifying threshold of 0.11 mg/L (field blank detection plus one-half the LRL). Total phosphorous was detected in one field blank at E0.002 mg/L. This blank detection resulted in a qualifying threshold of 0.004 mg/L (field blank detection plus one-half the LRL). Based on these results, detections of these nutrients (dissolved organic nitrogen plus ammonia, total organic nitrogen plus ammonia, and total phosphorous) below their established qualifying threshold in groundwater samples could have resulted from unintended sample contamination.

All field blanks were collected for analysis of major ions (*table 2*). Calcium was detected in one field blank at 0.04 mg/L. This blank detection resulted in a qualifying threshold of 0.06 mg/L (field blank detection plus one-half the LRL). Magnesium was detected in one field blank at 0.015 mg/L. This blank detection resulted in a qualifying threshold of 0.023 mg/L (field blank detection plus one-half the LRL). Chloride was detected in one field blank at E0.10 mg/L. This blank detection resulted in a qualifying threshold of 0.20 mg/L (field blank detection plus one-half the LRL). Silica was detected in one field blank at 0.50 mg/L. This blank detection resulted in a qualifying threshold of 0.53 mg/L (field blank detection plus one-half the LRL). All groundwater samples were above the established qualifying threshold (field blank detection plus one-half the LRL) for these major ions (calcium, magnesium, chloride, and silica); therefore, these blank detections did not result in the qualifying of any groundwater samples.

Field blanks were collected at two of the groundwater sites for analysis of trace metals (*table 2*). Barium was detected in two field blanks at E0.2 µg/L and 0.1 µg/L, respectively. The former detection was used to establish a qualifying threshold of 0.30 µg/L (maximum field blank detection plus one-half the LRL). Boron was detected in one field blank at 8 µg/L. This blank detection resulted in a qualifying threshold of 12 µg/L (field blank detection plus one-half the LRL). Nickel was detected in two field blanks at 0.07 µg/L and E0.05 µg/L. The former detection was used to establish a qualifying threshold of 0.17 µg/L (maximum field blank detection plus one-half the LRL). Strontium was detected in one field blank at E0.27 µg/L. This blank detection resulted in a qualifying threshold of 0.47 µg/L (field blank detection plus one-half the LRL). The detection of these trace metals (barium, boron, nickel, and strontium) in the field blanks suggests that the use of the Redi-Flo2 sampling equipment during sample collection could have resulted in unintended sample contamination. All groundwater samples were above the established qualifying threshold (field blank detection plus one-half the LRL) for these trace metals and, therefore, detections of these trace metals did not result in the qualifying of any groundwater samples. Chromium was detected in two field blank at E0.02 µg/L and E0.03 µg/L. The later detection was used to establish a qualifying threshold of 0.09 µg/L (maximum field blank detection plus one-half the LRL). Mercury was detected in one field blank at E 0.008 µg/L. This blank detection resulted in a qualifying threshold of 0.014 µg/L (field blank detection plus one-half the LRL). Zinc was detected in two field blanks at 0.9 µg/L and 1.0 µg/L. The later detection was used to establish a qualifying threshold of 3.8 µg/L (maximum field blank detection plus one-half the LRL). Based on these results, detections of these trace metals (chromium, mercury, and zinc) below their established qualifying threshold in groundwater samples could have resulted from unintended sample contamination.

Field blanks were collected at two of the groundwater sites for analysis of organic wastewater compounds (*table 3*). Acetophenone was detected in two field blanks at E0.3 mg/L and 0.4 mg/L, respectively. The detection of acetophenone in both of the field blanks reflects the difficulty in preventing any sample contamination of this constituent and concentrations measured in the groundwater samples should be avoided for any interpretation. DEET was detected in one field blank at E0.1 mg/L. This blank detection resulted in a qualifying threshold of 0.15 mg/L (field blank detection plus one-half the LRL). Triphenyl phosphate was detected in one field blank at 0.3 mg/L. This blank detection resulted in a qualifying threshold of 0.55 mg/L (field blank detection plus one-half the LRL). As a result, detection of these constituents (DEET and triphenyl phosphate) below the established qualifying threshold in groundwater samples could have resulted from unintended sample contamination.

No bacterial indicators were detected in field blanks collected at groundwater sites. As a result, no considerations are necessary for concentrations of bacterial indicator measured in the groundwater samples.

Surface-Water Replicates

Surface-water replicate samples were collected from the Russian River at Monte Rio Beach site to evaluate variability in the environmental data (*table 6*). Data from the replicates indicated that variability between measurements was acceptably low, confirming that the procedures used to collect the samples was consistent. No groundwater replicate samples were collected during this study period.

Discharge Measurements and Water-Quality Data

Field measurements were made for discharge, barometric pressure, dissolved oxygen, pH, specific conductance, temperature, and turbidity. Water samples were analyzed for nutrients, major ions, trace metals, total and dissolved organic carbon, organic wastewater compounds, standard bacterial indicators (total and fecal coliform, *Escherichia coli*, enterococci, and *Clostridium perfringens*), and the stable isotopes of hydrogen and oxygen. In addition, enrichment of enterococci was performed on surface-water samples for detection of the human-associated *esp* in *E. faecium*. Other analyses included organic wastewater compounds of bed sediment samples collected from four Russian River sites; carbon-13 isotopic values of the dissolved inorganic carbon for surface-water and groundwater samples; human-use pharmaceuticals on Russian River samples; and the radiogenic isotopes: tritium and carbon-14 for groundwater samples.

Table 6 presents discharge measurements and water-quality data collected during August 2005; June, July, August, and September 2006; and June, August, and October 2007 from 14 Russian River sites in Mendocino and Sonoma Counties. The discharge measurements and water-quality data collected from six tributary sites during June, July, and August 2006 are shown in *table 7*. The discharge measurements and water-quality data collected from the two major tributary sites—Dry Creek and Mark West Creek—and the gravel-pit terrace site between 2005 and 2007 are presented in *table 8*. *Table 9* presents water-quality data collected from ten groundwater sites in the vicinity of the SCWA's water-supply facility. *Table 10* presents water-quality data collected from three monitoring wells (two deep and one shallow) located adjacent to the Russian River approximately 1 mi upstream of the SCWA's water-supply facilities. *Table 11* presents the water-quality data collected from a collector well located within the SCWA's water-supply facility and an effluent sample from a wastewater treatment plant located proximal to the city of Monte Rio. *Table 12* presents Enterococci concentrations and results of assays for the *esp* human-associated marker in *E. faecium* for water samples collected from the Russian River and tributary sites in the Lower Russian River Basin, Sonoma County, California during the summer of 2006. *Table 13* presents the concentration of human-use pharmaceuticals for water samples collected in Mendocino and Sonoma Counties, California during 2007 and 2010. *Table 14* presents concentration of organic wastewater compounds for bed sediment samples collected at three Russian River sites and one tributary site in the Lower Russian River Basin, Sonoma County, California during 2005. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, during 2010 are shown in *table 15*. *Table 16* presents bacteria concentrations for water samples collected from 10 Russian River sites and Mark West Creek in the Russian River Basin, and quality-control data detected in field blanks from the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.

Summary

The U.S. Geological Survey collected water-quality data from surface-water and groundwater sites in the Russian River basin in Mendocino and Sonoma Counties, California. This report is a compilation of the hydrologic and water-quality data collected from 14 Russian River sites, 8 tributary sites, 1 gravel-terrace pit site, 14 groundwater sites, and a sewage treatment plant between the city of Ukiah and the town of Duncans Mills for the period August 2005 through October 2010. During 2005, water samples were collected from seven main-stem sites and bed sediment samples were collected from four sites along the lower Russian River between the towns of Forestville and Duncans Mills and from Mark West Creek to determine water-quality baseline conditions for the Russian River during the summer months. To better understand how tributary discharges might influence water quality in the Russian River, water samples were collected from six previously sampled main-stem sites, seven tributary sites, and from a sewage effluent sample during 2006. Between 2005 and 2006, water samples were collected from 3 Russian River sites, 11 groundwater sites (including a collector well), and 1 gravel-terrace pit site in the area of the Sonoma County Water Agency's (SCWA) water-supply facilities where the Russian River is diverted and treated by riverbank filtration. These data will be used to determine the predominant geochemical reactions that occur during the natural filtration process adjacent to the river. Water samples were collected from nine main-stem sites along the Russian River (including five previously sampled Russian River sites), Mark West Creek, and Dry Creek during June, August, and October 2007, to establish a water-quality baseline for the Russian River within Mendocino and Sonoma Counties. Water samples were collected from two deep monitoring wells and one shallow monitoring well within the Lower Russian River Basin during July 2008 to characterize the groundwater adjacent to the Russian River that is not influenced by the SCWA's water-supply facilities. Finally, discharge measurements and water-quality data were collected from ten Russian River sites, Mark West Creek, and three groundwater sites in Mendocino and Sonoma Counties, California, during June, August, and October 2010 to allow the evaluation of potential changes to water quality resulting from the proposed permanent changes to minimum in-stream flows and estuary management during the summer months.

The scope of this report focuses on the description of the site selections, sampling methods, and water-quality analyses used to accomplish the following: (1) collect hydrologic and water-quality data from surface-water and groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California; and (2) present the quality-control data analysis used to identify any water-quality data that may have been affected by contamination or bias during sample collection, processing, storage, transportation, or laboratory analysis. The extensive data presented in this report can be used to determine potential sources of contamination to the Russian River and the predominant geochemical reactions which occur during the natural filtration process at the SCWA's water-supply facility.

Acknowledgments

Funding for the cooperative water-quality investigation was provided by the Sonoma County Water Agency. The authors are grateful to James Jasperse, Donald Seymour, George Lincoln, Jeff Church, and Christopher Murray at Sonoma County Water Agency for their assistance in the selection of sampling sites and the collection of water-quality samples.

The authors acknowledge James Constantz, Marisa Cox, Grace Su, and Don Rosenberry (USGS) for their studies along the Russian River that concentrated on surface-water and groundwater interactions, water quality, and seepage rates in the Russian River channel and the nearby infiltration ponds. Discussions of their research aided in the selection of sampling sites and types of analyses performed during this study.

References Cited

American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1985, Standard methods for the examination of water and wastewater, 16th edition, American Public Health Association Publication, Washington, D.C., p. 827–944.

Anders, Robert, Davidek, Karl, and Koczot, K.M., 2006, Water-quality data for the Lower Russian River Basin, Sonoma County, California, 2003–2004: U.S. Geological Survey Data Series 168, 70 p. *http://pubs.water.usgs.gov/ds168*

Bisson, J.W., and Cabelli, V.J., 1979, Membrane filter enumeration method for *Clostridium perfringens*: Applied and Environmental Microbiology, v. 37, no. 1, p. 55–66.

Bisson, J.W., and Cabelli, V.J., 1980, *Clostridium perfringens* as a water pollution indicator: Journal of the Water Pollution Control Federation, v. 52, no. 2, p. 241–248.

Brenton, R.W., and Arnett, T.L., 1993, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory–Determination of dissolved organic carbon by UV-promoted persulfate oxidation and infrared spectrometry: U.S. Geological Survey Open-File Report 92-480, 12 p.

Britton, L.J., and Greeson, P.E., eds., 1989, Methods for collection and analysis of aquatic biological and microbiological samples: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5. chap. A4, p. 13–16.

Bullen, T.D., and Kendall, C., 1998, Tracing of weathering reactions and water flowpaths *in* Multi-isotope approach: C. Kendall and J.J. McDonnell (eds.), Isotope Tracers in Catchment Hydrology: Elsevier Science B.V., Amsterdam, p. 611–646.

Burkhardt, M.R., Zaugg, S.D., Smith, S.G., and ReVello, R.C., 2006, Determination of wastewater compounds in sediment and soil by pressurized solvent extraction, solid-phase extraction, and capillary-column gas chromatography/mass spectrometry: U.S. Geological Survey Techniques and Methods, book 5, chap. B2, 40 p.

Childress, C.J.O., Foreman, W.T., Connor, B.F., and Maloney, T.J., 1999, New reporting procedures based on long-term method detection levels and some consideration for interpretations of water-quality data provided by the U.S. Geological Survey National Water Quality Laboratory: U.S. Geological Survey Open-File Report 99-193, 19 p.

Constantz, J., Jasperse, J., Seymour, D., and Su, G.W., 2003, Heat tracing in the streambed along the Russian River of northern California, in Stonestrom, D.A., and Constantz, J., eds., Heat as a Tool for Studying the Movement of Ground Water near Streams: U.S. Geological Survey Circular 1260, chap. 3, p. 17–20. Available at *http://pubs.usgs.gov/circ/20031260/pdf/Circ1260.pdf*

Coplen, T.B., 1994, Reporting of stable hydrogen, carbon, and oxygen isotopic abundances: Pure & Applied Chemistry, v. 66, p. 273–276.

Coplen, T.B., Wildman, J.D. and Chen J., 1991, Improvements in the gaseous hydrogen-water equilibration techniques for hydrogen isotope ratio analysis: Analytical Chemistry, v. 63, p. 910–912.

Epstein, S., and Mayeda, T., 1953, Variations of O-18 content of waters from natural sources: Geochimica et Cosmochimica Acta, v. 4, p. 213–224.

Fishman, M.J., 1993, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of inorganic and organic constituents in water and fluvial sediments: U.S. Geological Survey Open-File Report 93-125, 217 p.

Fishman, M.J., and Friedman, L.C., eds., 1989, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Techniques of Water-Resources Investigations, book 5, chap. A1, 545 p.

Furlong, E.T., Werner, S.L., Anderson, B.D., and Cahill, J.D., 2008, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory determination of human-health pharmaceuticals in filtered water by chemically modified styrene-divinylbenzene resin-based solid-phase extraction and high-performance liquid chromatography/mass spectrometry: U.S. Geological Survey Techniques and Methods, book 5, chap. B5, 56 p.

Garbarino, J.R., 1999, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of dissolved arsenic, boron, lithium, selenium, strontium, thallium, and vanadium using inductively coupled plasma-mass spectrometry: U.S. Geological Survey Open-File Report 99-093, 31 p.

Garbarino, J.R., and Damrau, D.L., 2001, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory–Determination of organic plus inorganic mercury in filtered and unfiltered natural water with cold vapor–atomic fluorescence spectrometry: U.S. Geological Survey Water-Resources Investigations Report 01–4132, 16 p.

Garbarino, J.R., Kanagy, L.K., and Cree, M.E., 2006, Determination of elements in natural-water, biota, sediment and soil samples using collision/reaction cell inductively coupled plasma-mass spectrometry: U.S. Geological Survey Techniques and Methods, book 5, sec. B, chap.1, 88 p.

Gonfiantini, R., 1984, Advisory group meeting on stable reference samples for geochemical and hydrological investigations, Vienna, September 19–21, 1983: International Atomic Energy Agency, Vienna, 77 p.

Kulongoski, J.T., Belitz, K., and Dawson, B.J., 2006, Ground-water quality data in the North San Francisco Bay hydrogeologic provinces, California, 2004: Results from the California Ground-Water Ambient Monitoring and Assessment Program: U.S. Geological Survey Data Series 167, 100 p.

Metge, D.W., Harvey R.W., Aiken, G.R., Anders R., Lincoln, G., and Jasperse J., 2010, Influence of organic carbon loading, sediment associated metal oxide content and sediment grain size distributions upon Cryptosporidium parvum removal during riverbank filtration operations, Sonoma County, California: Water Research, v. 44, p. 1126–1137.

Metge, D.W., Harvey R.W., Anders R., Rosenberry D.O., Seymour D., and Jasperse J., 2007, Use of carboxylated microspheres to access transport potential of Cryptosporidium parvum oocysts at the Russian River water-supply facility, Sonoma County, California: Geomicrobiology Journal, v. 24, p. 231–245.

National Marine Fisheries Service, 2005, Biological opinion for the U.S. Army Corps of Engineers proposed issuance of a section 404 permit to the Sonoma County Water Agency (SCWA) for breaching the Russian River estuary, May 20, 2005.

Office of Water Quality,1991, Distilled/deionized water for Science Center operations: Office of Water Quality Technical Memorandum 92.01, December 20, 1991.

Ostlund, H.G., Craig, H., Broecker, W.S., and Spencer, D., 1987, Geosecs Atlantic, Pacific, and Indian Ocean Expeditions: Shorebased Data and Graphics: v. 7, p. 7–19.

Ostlund, H.G., and Dorsey, H.G., 1977, Rapid electrolytic enrichment and hydrogen gas proportional counting of tritium, in Low-Radioactivity Measurements and Applications: Proceedings of the International Conference on Low-Radioactivity Measurements and Application, October 6-10, 1975, The High Tatras, Czechoslovakia, p. 55–60.

Patton, C.J., and Kryskalla. J.R., 2003, Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory. Evaluation of Alkaline Persulfate Digestion as an Alternative to Kjeldahl Digestion for Determination of Total and Dissolved Nitrogen and Phosphorus in Water: U.S. Geological Survey Water-Resources Investigations Report 03–4174, 33 p.

Patton, C.J., and Truitt, E.P., 2000, Methods of analysis by the U.S. Geological Survey National Water Quality LaboratoryDetermination of ammonium plus organic nitrogen by a Kjeldahl digestion method and an automated photometric finish that includes digest cleanup by gas diffusion: U.S. Geological Survey Open-File Report 00-170, 31 p.

Scott, T.M., Jenkins, T.M.. Lukasik, J., and Rose, J.B., 2005, Potential use of a host associated molecular marker in Enterococcus faecium as an index of human fecal pollution: Environmental Science and Technology, v. 39, p. 283–287.

Struzeski, T.M., DeGiacomo, W.J., and Zayhowski, E.J., 1996, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory–Determination of dissolved aluminum and boron in water by inductively coupled plasma-atomic emission spectrometry: U.S. Geological Survey Open-File Report 96–149, 17 p.

Stuiver, M., and Polach, H.A., 1977, Reporting of 14C data: Radiocarbon, v. 19, p. 355–363.

U.S. Environmental Protection Agency, 1993, Determination of phosphorus by semi-automated colorimetry revision 2.0: Methods for the Determnation of Inorganic Substances in Environmental Samples, 17 p.

U.S. Environmental Protection Agency, 2002a, Method 1603—*Escherichia coli* in water by membrane filtration using modified membrane-thermotolerant *Escherichia coli* agar: Washington, D.C., EPA 821-R-02-23, 9 p.

U.S. Environmental Protection Agency, 2002b, Method 1600—Enterococci in water by membrane filtration using membrane-Enterococcus Indoxyl-b-D-Glucoside agar (mEI): Washington, D.C., EPA/821/R-06/009, 42 p.

U.S. Geological Survey, variously dated, National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1–A9, available online at *http://pubs.water.usgs.gov/twri 9A*.

Wershaw, R.L., Fishman, M.J., Grabbe, R.R., and Lowe, L.E., eds., 1987, Methods for the determination of organic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A3, 80 p.

Wigley, T.M.L., and Muller, A.B., 1981, Fractionation corrections in radiocarbon dating: Radiocarbon, v. 23, p. 173–190.

Zaugg, S.D., Smith, S.G., Schroeder, M.P., Barber, L.B., and Burkhardt, M.R., 2002, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of wastewater compounds by polystyrene-divinylbenzene solid-phase extraction and capillary-column gas chromatography/mass spectrometry: U.S. Geological Survey Water-Resources Investigation Report 01–4186, 37 p.

Tables

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	pH, lab (standard units) (00403)	Specific conduct-ance, lab (µS/cm) (90095)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)
			Surface-water blanks							
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	E8.2	<5	<0.04	<0.016	<0.06	<0.10
			08/25/2010	08:10	E7.9	<5	<0.04	<0.016	<0.06	<0.10
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	8.7	<3	<0.02	<0.008	<0.16	<0.20
			08/22/2007	12:10	8.0	5	<0.02	<0.014	<0.04	<0.20
			10/17/2007	09:10	8.4	<3	<0.04	<0.020	<0.02	<0.12
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	8.3	<3	<0.02	<0.008	<0.16	<0.20
			07/19/2006	10:10	7.8	3	<0.02	E0.004	<0.16	<0.20
			08/23/2006	11:50	8.3	4	<0.02	<0.008	<0.16	<0.20
			Groundwater blanks							
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	7.7	7	0.04	0.015	<0.16	<0.20
			09/22/2006	09:10	8.1	4	<0.02	<0.008	<0.16	<0.20
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	E7.8	<5	<0.04	<0.016	<0.06	<0.10

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)
			Surface-water blanks							
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<8	<0.02	<0.12	<0.08	<0.06	<0.18
			08/25/2010	08:10	<8	<0.02	<0.12	<0.08	<0.06	<0.18
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<5	<0.02	<0.20	<0.10	<0.04	<0.18
			08/22/2007	12:10	<5	<0.02	<0.12	<0.10	<0.02	<0.18
			10/17/2007	09:10	E3	–	<0.12	<0.12	<0.02	<0.18
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<5	<0.02	<0.20	<0.10	<0.04	<0.18
			07/19/2006	10:10	<5	<0.02	<0.20	<0.10	E0.03	<0.18
			08/23/2006	11:50	<5	<0.02	<0.20	<0.10	<0.04	<0.18
			Groundwater blanks							
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	<5	<0.02	E0.10	<0.10	<0.04	<0.18
			09/22/2006	09:10	<5	<0.02	<0.20	<0.10	0.50	<0.18
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<8	<0.02	<0.12	<0.08	<0.06	<0.18

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, NO_2+NO_3, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<10	<0.020	<0.10	<0.10	<0.04	E0.001
			08/25/2010	08:10	<10	<0.020	<0.10	<0.10	<0.04	<0.002
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<10	<0.04	<0.10	<0.10	<0.06	<0.008
			08/22/2007	12:10	<10	<0.020	<0.10	<0.10	<0.06	<0.002
			10/17/2007	09:10	<10	<0.020	<0.14	<0.14	<0.06	<0.002
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<10	E0.008	E0.07	<0.10	<0.06	<0.002
			07/19/2006	10:10	<10	E0.008	<0.10	<0.10	<0.06	<0.002
			08/23/2006	11:50	<10	0.017	0.2	<0.10	<0.06	<0.002
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	<10	<0.04	<0.10	E0.06	<0.06	<0.008
			09/22/2006	09:10	<10	<0.010	0.12	<0.10	<0.06	<0.002
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<10	<0.020	<0.10	–	<0.04	<0.002

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	*Clostridium perfringens*, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	*Escherichia coli*, modified mTEC MF (col/100 mL) (90902)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.006	<0.008	<0.008	–	–	–
			08/25/2010	08:10	<0.006	<0.008	<0.008	–	–	–
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.004	<0.02	<0.004	–	–	–
			08/22/2007	12:10	E0.004	E0.003	<0.008	<1	<1	<1
			10/17/2007	09:10	<0.006	<0.006	<0.008	<1	<1	<1
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.004	<0.006	<0.004	<1	<1	<1
			07/19/2006	10:10	<0.004	<0.006	<0.004	<1	<1	<1
			08/23/2006	11:50	<0.004	<0.006	<0.004	<1	<1	<1
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	<0.004	<0.04	<0.004	<1	<1	<1
			09/22/2006	09:10	<0.004	<0.006	E0.002	<1	<1	<1
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.04	<0.008	–	–	–	–

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Total coliform, M-Endo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as An) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	–	<3.4	<0.05	<0.04	<0.14	<0.01
			08/25/2010	08:10	–	<3.4	<0.05	<0.04	E0.1	<0.01
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	–	<1.6	<0.20	<0.12	0.22	<0.06
			08/22/2007	12:10	<1	<1.6	<0.06	<0.12	<0.08	<0.06
			10/17/2007	09:10	<1	<1.6	<0.14	<0.06	<0.4	<0.01
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<1	<1.6	<0.20	<0.12	<0.2	<0.06
			07/19/2006	10:10	<1	<1.6	<0.20	<0.12	<0.2	<0.06
			08/23/2006	11:50	44	<1.6	<0.20	<0.12	<0.2	<0.06
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	<1	<1.6	<0.20	<0.2	E0.2	<0.06
			09/22/2006	09:10	<1	<1.6	<0.20	<0.12	E0.1	<0.06
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	–	–	–	–	–	–

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL; colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<3	<0.02	<0.12	0.28	<1.0	<6
			08/25/2010	08:10	<3	<0.02	<0.12	0.14	<1.0	<6
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<8	<0.04	<0.04	<0.04	–	E3
			08/22/2007	12:10	<8	<0.04	<0.12	0.04	<0.40	<6
			10/17/2007	09:10	<6	<0.04	<0.12	<0.02	<1.0	<8
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<7	<0.04	<0.04	<0.040	<0.4	<6
			07/19/2006	10:10	<8	<0.04	<0.04	<0.04	<0.40	<6
			08/23/2006	11:50	<8	<0.04	E0.03	<0.04	<0.40	<6
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	8	<0.04	E0.02	<0.014	<0.4	<6
			09/22/2006	09:10	<8	<0.04	E0.03	<0.04	<0.40	<6
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	–	–	–	–	–	–

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.03	<0.4	0.4	<0.010	<0.028	<0.12
			08/25/2010	08:10	<0.03	<0.4	E0.2	<0.010	<0.028	<0.12
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.08	<0.6	<0.2	<0.010	<0.4	–
			08/22/2007	12:10	<0.12	<0.6	<0.2	0.012	<0.1	<0.06
			10/17/2007	09:10	<0.08	<1.0	<0.2	<0.010	<0.2	<0.20
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.08	<0.6	<0.2	<0.010	<0.4	<0.06
			07/19/2006	10:10	<0.08	<0.6	<0.2	<0.010	<0.4	<0.06
			08/23/2006	11:50	<0.08	<0.6	<0.2	<0.010	<0.4	<0.06
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	<0.08	<0.6	<0.2	<0.010	<0.4	0.07
			09/22/2006	09:10	<0.08	<0.6	<0.2	E0.008	<0.4	E0.05
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	–	–	0.3	–	–	–

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.04	<0.010	<0.40	<0.02	<0.16	<2.8
			08/25/2010	08:10	<0.04	<0.010	<0.40	<0.02	<0.16	<2.8
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.08	<0.2	<0.40	<0.04	<0.10	<0.60
			08/22/2007	12:10	<0.08	<0.1	<0.40	<0.04	<0.04	<0.60
			10/17/2007	09:10	<0.04	<0.1	<0.80	<0.04	<0.04	<1.8
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.08	<0.2	<0.40	<0.04	<0.10	<0.6
			07/19/2006	10:10	<0.08	<0.2	<0.40	<0.04	<0.10	<0.60
			08/23/2006	11:50	<0.08	<0.2	<0.40	<0.04	<0.10	<0.60
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	<0.4	<0.2	E0.27	<0.04	<0.1	0.9
			09/22/2006	09:10	<0.08	<0.2	<0.40	<0.04	<0.10	1.0
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	–	–	–	–	–	–

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	1,4-Dichloro-benzene, dissolved (µg/L) (34572)	1-Methyl-naphthalene, dissolved (µg/L) (62054)	2, 6-Dimethyl-naphthalene, dissolved (µg/L) (62055)	2-Methyl-naphthalene, dissolved (µg/L) (62056)	3-*Beta*-Copros-tanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.040	<0.022	<0.1	<0.036	<2	<0.036
			08/25/2010	08:10	<0.040	<0.022	<0.1	<0.036	<2	<0.036
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<0.5	<0.5	<2	<1
			08/22/2007	12:10	<0.1	<0.1	<0.2	<0.1	<2	<0.08
			10/17/2007	09:10	<0.1	<0.1	<0.1	<0.1	<1	<0.08
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<0.5	<0.5	<2	<1
			07/19/2006	10:10	<0.5	<0.5	<0.5	<0.5	<2	<1
			08/23/2006	11:50	<0.5	<0.5	<0.5	<0.5	<2	<1
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<0.5	<0.5	<2	<1
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.040	<0.022	<0.1	<0.036	<2	<0.036

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	3-*tert*-Butyl-4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumylphenol, dissolved (µg/L) (62060)	4-*n*-Octylphenol, dissolved (µg/L) (62061)	4-Nonylphenol, dissolved (µg/L) (62085)	4-Nonylphenol diethoxylates dissolved (µg/L) (62083)	4-Octylphenol diethoxylates dissolved (µg/L) (61705)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<8	<0.06	<0.16	<2	<5	<1
			08/25/2010	08:10	–	<0.06	<0.16	<2	<5	<1
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<5	<1	<1	<5	<5	<1
			08/22/2007	12:10	<0.6	<0.14	<0.16	<2	<5	<1
			10/17/2007	09:10	<0.6	<0.1	<0.16	<1	<5	<1
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<5	<1	<1	<5	<5	<1
			07/19/2006	10:10	<5	<1	<1	<5	<5	<1
			08/23/2006	11:50	<5	<1	<1	<5	<5	<1
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<5	<1	<1	<5	<5	<1
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	–	<0.06	<0.16	<2	<5	<1

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	4-Octyl-phenol mono-ethoxylates dissolved (µg/L) (61706)	4-*tert*-Octyl-phenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzo-triazole, dissolved (µg/L) (62063)	9,10-Anthra-quinone, dissolved (µg/L) (62066)	Aceto-phenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/25/2010	08:10	<1	<0.14	<1	<0.2	1.3	<0.028
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<1	<1	<2	<0.5	E0.2	<0.5
			08/22/2007	12:10	<1	<0.10	<2	<0.2	<0.1	<0.5
			10/17/2007	09:10	<1	<1	<0.08	<0.2	<0.1	<0.5
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<1	<1	<2	<0.5	E0.2	<0.5
			07/19/2006	10:10	<1	<1	<2	<0.5	<0.5	<0.5
			08/23/2006	11:50	<1	<1	<2	<0.5	0.7	<0.5
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<1	<1	<2	<0.5	E0.3	<0.5
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<1	<0.14	<1	<0.2	0.4	<0.028

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Anthracene, dissolved (µg/L) (34221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzophenone, dissolved (µg/L) (62067)	*Beta*-Sitosterol, dissolved (µg/L) (62068)	*Beta*-Stigmastanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)
				Surface-water blanks						
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.028	<0.1	<0.1	<4	<3	<0.4
			08/25/2010	08:10	<0.028	<0.1	<0.1	<4	<3	<0.4
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<0.5	<2	<2	<0.5
			08/22/2007	12:10	<0.1	<0.1	<0.2	<2	<2	<0.4
			10/17/2007	09:10	<0.1	<0.1	<0.1	<3	<1	<0.4
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<0.5	<2	<2	<0.5
			07/19/2006	10:10	<0.5	<0.5	<0.5	<2	<2	<0.5
			08/23/2006	11:50	<0.5	<0.5	<0.5	<2	<2	<0.5
				Groundwater blanks						
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<0.5	<2	<2	<0.5
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.028	<0.1	<0.1	<4	<3	<0.4

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.1	<0.044	<0.38	<0.030	<0.2	<2
			08/25/2010	08:10	<0.1	<0.044	<0.38	<0.030	<0.2	<2
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<1	<0.5	<0.5	<2
			08/22/2007	12:10	<0.2	<0.1	<1	<0.1	<0.2	<1
			10/17/2007	09:10	<0.1	<0.1	<1	<0.1	<0.1	<1
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<1	<0.5	<0.5	<2
			07/19/2006	10:10	<0.5	<0.5	<1	<0.5	<0.5	<2
			08/23/2006	11:50	<0.5	<0.5	<1	<0.5	<0.5	<2
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<1	<0.5	<0.5	<2
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.1	<0.044	<0.38	<0.030	<0.2	<2

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)	Fluor-anthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.600	<0.1	<0.2	<0.1	<0.024	<0.1
			08/25/2010	08:10	<0.038	<0.1	<0.2	<0.1	<0.024	<0.1
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
			08/22/2007	12:10	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
			10/17/2007	09:10	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
			07/19/2006	10:10	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
			08/23/2006	11:50	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<1.00	E0.1	<0.5	<0.5	<0.5	<0.5
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.600	<0.1	<0.2	<0.1	<0.024	<0.1

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Indole, dissolved (µg/L) (62076)	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Isopropyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)
				Surface-water blanks						
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.1	<0.2	<0.1	<0.3	<0.046	<0.3
			08/25/2010	08:10	<0.1	<0.2	<0.1	<0.3	<0.046	<0.3
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
			08/22/2007	12:10	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2
			10/17/2007	09:10	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
			07/19/2006	10:10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
			08/23/2006	11:50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
				Groundwater blanks						
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.1	<0.2	<0.1	<0.3	<0.046	<0.3

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Metalaxyl, dissolved (µg/L) (50359)	Methyl-salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)	Naphthalene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenanthrene, dissolved (µg/L) (34462)
				Surface-water blanks						
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.1	<0.044	<0.1	<0.040	<0.08	<0.032
			08/25/2010	08:10	<0.1	<0.044	<0.1	<0.040	<0.08	<0.032
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5
			08/22/2007	12:10	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1
			10/17/2007	09:10	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<0.5	<0.5	<1	<0.5
			07/19/2006	10:10	<0.5	<0.5	<0.5	<0.5	<1	<0.5
			08/23/2006	11:50	<0.5	<0.5	<0.5	<0.5	<1	<0.5
				Groundwater blanks						
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<0.5	<0.5	<1	<0.5
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.1	<0.044	<0.1	<0.040	<0.08	<0.032

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Prometon, dissolved (µg/L) (04037)	Pyrene, dissolved (µg/L) (34470)	Tetra-chloroethene, dissolved (µg/L) (34476)	Tri-bromo-meth-ane, dissolved (µg/L) (34288)	Tri-butyl phosphate, dissolved (µg/L) (62089)	Triclosan, dissolved (µg/L) (62090)
Surface-water blanks										
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.1	<0.042	<0.1	<0.1	<0.2	<0.20
			08/25/2010	08:10	<0.1	<0.042	<0.1	<0.1	<0.2	<0.20
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<0.5	<0.5	<0.5	<1
			08/22/2007	12:10	<0.4	<0.1	<0.2	<0.1	<0.2	<0.2
			10/17/2007	09:10	<0.2	<0.1	<0.1	<0.1	<0.2	<0.2
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<0.5	<0.5	<0.5	<1
			07/19/2006	10:10	<0.5	<0.5	<0.5	<0.5	<0.5	<1
			08/23/2006	11:50	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Groundwater blanks										
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<0.5	<0.5	<0.5	<1
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.1	<0.042	<0.1	<0.1	<0.2	<0.20

Table 5. Quality-control data detected in 11 field blanks collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5 digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; $Si0_2$, silicon dioxide; SO_4, sulfate ; <, actual value less than value shown; E, estimated value; –, no data]

Map site number	USGS station number	Station name	Date	Time	Tri-ethyl citrate, dissolved (µg/L) (62091)	Tri-phenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chloroethyl) phosphate, dissolved (µg/L) (62087)	Tris(di-chloroisopropy) phosphate, dissolved (µg/L) (62088)
Surface-water blanks									
7	11465400	Russian River at Wohler Bridge	06/16/2010	13:40	<0.4	<0.1	<0.8	<0.1	<0.2
			08/25/2010	08:10	<0.4	<0.1	<0.8	<0.1	<0.2
8	382959122535601	Russian River at Steelhead Beach	09/14/2005	09:00	<0.5	<0.5	<0.5	<0.5	<0.5
			08/22/2007	12:10	<0.4	<0.2	<0.5	<0.2	<0.2
			10/17/2007	09:10	<0.2	<0.1	<0.4	<0.1	<0.1
13	382757123003801	Russian River at Monte Rio	06/14/2006	08:45	<0.5	<0.5	<0.5	<0.5	<0.5
			07/19/2006	10:10	<0.5	<0.5	<0.5	<0.5	<0.5
			08/23/2006	11:50	<0.5	<0.5	<0.5	<0.5	<0.5
Groundwater blanks									
24	382944122533501	8N/9W-31H1	09/01/2005	12:20	–	–	–	–	–
			09/22/2006	09:10	<0.5	<0.5	<0.5	<0.5	<0.5
33	383132122514501	8N/9W-21F1	08/24/2010	16:10	<0.4	0.3	<0.8	<0.1	<0.2

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Discharge, instantaneous (ft^3/s) (00061)	Turbidity, field (NTU) (61028)	Turbidity, infrared LED (FNU) (63680)	Barometric pressure, (mm of Hg) (00025)	Dissolved oxygen, (mg/L as O_2) (00300)	Dissolved oxygen, (percent saturation) (00301)	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)	Temperature, water (°C) (00010)
1	11462000	East Fork Russian River near Ukiah	06/04/2007	11:30	69	–	28	750	6.7	–	7.3	161	10.0
			08/20/2007	13:00	199	–	22	748	1.6	16	7.2	180	14.9
			10/15/2007	11:30	184	–	19	743	9.2	99	8.1	195	17.7
2	11462500	Russian River near Hopland	06/04/2007	15:00	83	–	7.7	750	9.4	102	7.7	219	18.3
			08/20/2007	15:30	154	–	11	751	10.4	115	8.4	193	19.5
			10/15/2007	15:00	164	–	17	747	10.0	105	8.1	210	16.6
3	11463000	Russian River near Cloverdale	06/05/2007	10:30	88	–	9.0	–	9.0	–	8.1	249	19.1
			08/21/2007	11:00	141	–	7.5	761	8.8	97	8.0	202	20.2
			10/16/2007	12:00	–	–	6.8	749	9.2	94	8.0	216	15.5
4	11463980	Russian River at Digger Bend near Healdsburg	06/05/2007	14:00	104	–	1.6	763	9.9	114	8.3	316	22.5
			08/21/2007	15:00	112	–	0.8	763	8.4	105	8.3	273	26.2
			10/16/2007	15:00	–	–	0.4	756	9.9	103	8.2	257	16.7
7	11465400	Russian River at Wohler Bridge	08/31/2005	12:30	[a]	2.2	–	761	8.7	95	7.5	234	19.9
			09/20/2006	09:00	[a]	–	3.4	765	8.8	94	7.8	231	18.6
			06/05/2007	16:00	[a]	–	3.1	–	10.6	–	8.2	254	20.8
			08/22/2007	09:30	[a]	–	2.5	761	8.0	94	8.1	234	23.2
			10/17/2007	12:00	[a]	–	1.6	–	9.7	–	7.9	229	14.5
9	11467000	Russian River near Guerneville	09/12/2005	13:00	201[b]	2.8	–	763	9.8	106	8.4	247	19.4
			06/12/2006	13:30	237[b]	–	6.3	–	9.0	–	7.8	292	18.9
			07/17/2006	15:00	154	–	7.1	766	8.5	103	7.9	255	25.1
			08/22/2006	12:30	164[b]	–	9.7	–	9.4	–	8.2	237	20.8
			09/19/2006	12:30	139[b]	–	5.7	763	9.2	101	8.0	238	19.2
			06/06/2007	14:30	91[b]	–	5.2	–	10.8	–	8.2	287	20.4
			08/22/2007	15:30	85	–	2.6	757	9.1	112	8.1	236	25.4
			10/17/2007	13:30	257	–	5.5	762	8.9	89	7.7	254	15.5
11	11467002	Russian River at Johnson's Beach	09/13/2005	10:30	[a]	7.8	–	761	9.2	98	8.1	250	18.4
			06/13/2006	13:00	403	–	5.8	764	9.6	103	7.9	288	18.7
			07/18/2006	15:30	[a]	–	17	763	8.7	108	8.2	270	26.2
			08/22/2006	15:00	[a]	–	11	768	8.9	102	7.9	241	22.6
			09/20/2006	14:00	[a]	–	8.1	767	9.5	104	7.6	240	20.3
			06/07/2007	13:00	[a]	–	7.2	767	10.0	114	8.3	296	22.2
			08/23/2007	12:30	[a]	–	9.1	–	7.8	–	8.0	240	24.9
			10/18/2007	12:00	238	–	4.9	766	10.0	100	7.8	251	15.4

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Discharge, instantaneous (ft^3/s) (00061)	Turbidity, field (NTU) (61028)	Turbidity, infrared LED (FNU) (63680)	Barometric pressure, (mm of Hg) (00025)	Dissolved oxygen, (mg/L as O_2) (00300)	Dissolved oxygen, (percent saturation) (00301)	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)	Temperature, water (°C) (00010)
12	11467006	Russian River at Vacation Beach	09/12/2005	10:00	194	7.5	–	759	8.8	95	7.9	250	19.0
			06/13/2006	14:30	441	–	7.0	766	10.8	116	8.0	287	19.1
			07/18/2006	13:30	242	–	5.2	765	8.7	108	8.0	270	26.5
			08/22/2006	14:30	165	–	7.6	768	8.9	102	7.9	242	22.5
			09/19/2006	14:00	–	–	–	–	8.7	–	8.2	241	20.4
14	382754123030501	Russian River at Casini Ranch	09/13/2005	17:00	219	0.9	–	760	11.6	128	8.5	249	20.0
			06/15/2006	12:30	485	–	4.2	772	9.8	105	8.0	295	19.7
			07/20/2006	11:30	200	–	5.3	764	7.9	94	7.7	266	24.5
			08/24/2006	13:00	94	–	1.8	763	11.6	134	8.2	244	22.6
			09/22/2006	12:30	132	–	1.5	760	11.2	124	8.2	246	20.5
13	382757123003801	Russian River at Monte Rio	09/13/2005	13:30	223	2.1	–	761	9.9	108	8.1	251	19.6
			06/14/2006	09:30	461	–	5.3	768	9.7	102	7.8	297	18.0
			06/14/2006 [c]	12:00	–	–	6.1	766	10.1	–	7.8	296	18.2
			07/19/2006	10:30	193	–	6.2	764	8.4	100	7.8	265	24.3
			07/19/2006 [c]	12:00	–	–	–	–	–	–	–	–	–
			08/23/2006	10:30	167	–	2.6	767	8.3	92	7.7	243	20.8
			08/23/2006 [c]	12:30	–	–	2.1	767	10.1	–	7.8	243	22.1
			09/20/2006	11:30	–	–	1.7	770	9.5	102	7.7	247	19.0
			06/07/2007	11:00	123	–	7.5	766	9.1	103	7.9	292	21.4
			08/23/2007	11:00	81	–	2.5	756	8.5	103	8.0	242	24.2
			10/18/2007	10:00	219	–	2.6	766	9.3	93	7.8	234	15.8
8	382959122535601	Russian River at Steelhead Beach	08/29/2005	15:00	187	3.9	–	762	9.5	107	8.4	251	21.4
			09/14/2005	10:00	194	3.2	–	763	9.5	100	8.2	256	17.9
			06/12/2006	10:00	261	–	8.2	762	8.9	95	7.9	295	18.7
			07/17/2006	09:00	341	–	7.1	767	7.9	91	7.9	253	22.8
			08/22/2006	09:00	190	–	6.6	766	9.6	107	8.3	235	20.7
			09/19/2006	10:00	131	–	5.4	761	9.5	103	8.1	237	19.0
			06/06/2007	10:00	130	–	5.9	765	9.6	102	8.1	288	18.8
			08/22/2007	11:00	90	–	2.7	760	8.6	99	8.1	234	22.2
			10/17/2007	09:30	248	–	6.7	766	8.7	85	7.7	255	14.6
10	383012122574501	Russian River at Odd Fellows Park	09/12/2005	15:00	200	3.7	–	763	9.8	106	8.3	249	19.1
6	383132122514901	Russian River at River Front Park	08/30/2005	12:30	285	2.3	–	762	10.6	117	8.4	235	20.5
			09/21/2006	10:30	215	–	4.3	760	9.7	104	7.8	226	18.3
5	383502122512801	Russian River below Dry Creek near Healdsburg	09/01/2005	15:30	290	2.9	–	757	9.7	108	8.5	230	20.7
			09/21/2006	15:00	225	–	3.2	758	10.0	112	8.2	221	20.8

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)
1	06/04/2007	11:30	16.4	7.13	0.89	5.39	75	<0.02	2.56	E0.08	8.69	6.40	100	E0.016
	08/20/2007	13:00	19.1	8.19	0.95	6.03	82	<0.02	2.67	E0.07	8.85	6.62	101	0.064
	10/15/2007	11:30	20.6	8.02	0.96	6.73	92	E0.01	3.09	E0.09	8.56	7.66	109	E0.015
2	06/04/2007	15:00	20.2	9.77	1.20	9.71	96	E0.02	5.82	0.10	10.2	9.18	135	0.036
	08/20/2007	15:30	19.9	8.88	1.10	7.32	87	<0.02	4.15	E0.07	9.19	7.58	115	<0.020
	10/15/2007	15:00	21.3	9.03	1.08	8.20	96	E0.01	4.68	E0.09	9.29	8.44	119	E0.010
3	06/05/2007	10:30	21.8	11.90	1.14	9.74	111	0.02	6.23	E0.10	11.3	11.3	150	E0.020
	08/21/2007	11:00	19.5	9.55	1.06	7.74	91	<0.02	4.53	E0.07	9.20	8.01	118	E0.013
	10/16/2007	12:00	20.8	9.82	1.07	8.98	100	<0.02	4.96	E0.09	9.61	9.12	134	<0.020
4	06/05/2007	14:00	28.9	16.70	1.15	9.48	144	0.04	6.21	E0.10	14.0	17.3	181	<0.020
	08/21/2007	15:00	25.6	13.90	1.13	9.04	124	0.03	5.98	E0.09	13.8	12.3	170	<0.020
	10/16/2007	15:00	24.5	12.70	1.03	9.33	120	E0.02	5.69	E0.10	12.1	12.2	164	<0.020
7	08/31/2005	12:30	22.0	11.90	0.92	7.52	106	0.02	4.68	0.10	13.9	11.1	140	<0.04
	09/20/2006	09:00	22.1	12.00	0.96	8.08	104	0.03	5.45	E0.08	14.4	10.6	140	<0.010
	06/05/2007	16:00	21.2	13.20	0.96	8.22	114	0.03	5.71	0.10	14.7	13.9	157	<0.020
	08/22/2007	09:30	20.0	11.70	0.94	8.76	103	0.03	6.31	E0.10	14.3	10.7	140	<0.020
	10/17/2007	12:00	21.1	11.80	1.01	8.47	105	0.02	5.45	E0.10	13.1	10.9	140	<0.020
9	09/12/2005	13:00	22.3	12.90	1.00	8.38	111	E0.01	5.61	E0.10	14.6	11.1	138	<0.04
	06/12/2006	13:30	26.8	15.80	1.28	10.20	129	0.04	6.51	0.10	17.3	14.4	176	0.017
	07/17/2006	15:00	22.1	13.10	1.15	8.26	114	0.03	5.27	0.12	14.0	12.3	153	<0.010
	08/22/2006	12:30	21.0	12.50	1.08	8.13	107	0.02	5.00	E0.09	14.9	10.6	142	<0.010
	09/19/2006	12:30	21.4	12.30	1.06	8.20	109	0.03	5.29	E0.08	15.0	10.7	138	<0.010
	06/06/2007	14:30	24.3	15.60	1.35	12.20	126	0.05	8.48	0.10	16.1	14.6	178	<0.020
	08/22/2007	15:30	20.9	12.40	1.06	8.91	105	0.03	5.54	0.10	14.9	10.5	138	<0.020
	10/17/2007	13:30	21.4	12.40	1.93	11.90	102	–	10.40	E0.09	14.1	15.1	149	<0.020
11	09/13/2005	10:30	24.0	13.70	1.06	9.16	112	0.04	5.59	0.10	15.0	11.0	149	<0.04
	06/13/2006	13:00	26.0	15.40	1.25	9.67	129	0.04	6.21	0.11	16.7	14.4	174	0.013
	07/18/2006	15:30	23.8	14.20	1.21	9.25	120	0.03	5.99	0.10	14.7	12.5	154	<0.010
	08/22/2006	15:00	20.4	12.50	1.09	8.16	110	0.03	5.06	E0.08	14.7	10.8	146	<0.010
	09/20/2006	14:00	22.4	12.70	1.07	8.34	109	0.03	5.37	E0.08	15.3	11.1	129	<0.010
	06/07/2007	13:00	26.9	17.10	1.52	12.90	130	0.04	8.84	0.13	17.0	14.6	188	<0.020
	08/23/2007	12:30	20.4	12.70	1.09	9.17	107	0.03	5.83	0.10	15.1	10.6	145	<0.020
	10/18/2007	12:00	20.8	12.50	1.90	11.70	104	0.04	9.89	E0.10	14.1	14.3	160	E0.011
12	09/12/2005	10:00	21.5	12.90	1.04	8.16	111	0.17	5.67	0.10	14.6	11.0	135	<0.04

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)
	06/13/2006	14:30	26.2	15.60	1.30	10.10	130	0.04	6.47	0.10	16.7	14.3	172	0.012
	07/18/2006	13:30	24.5	14.80	1.27	9.49	120	0.04	5.85	0.10	14.6	12.4	166	<0.010
	08/22/2006	14:30	21.0	12.90	1.10	8.42	109	0.03	5.19	0.10	15.1	10.8	139	<0.010
	09/19/2006	14:00	21.8	13.10	1.14	8.57	112	0.03	5.54	E0.08	15.5	11.0	150	<0.010
14	09/13/2005	17:00	23.6	13.70	1.10	9.13	112	0.13	5.68	0.10	14.9	10.8	142	<0.04
	06/15/2006	12:30	26.1	16.10	1.31	10.40	132	0.04	7.12	0.10	16.5	14.0	172	0.016
	07/20/2006	11:30	21.5	14.70	1.28	9.15	119	0.03	6.01	0.13	15.3	12.2	151	<0.010
	08/24/2006	13:00	20.6	12.90	1.15	8.46	110	0.03	5.36	E0.07	15.3	10.7	144	E0.007
	09/22/2006	12:30	21.8	13.20	1.08	8.56	113	0.03	5.70	E0.09	15.6	10.8	140	<0.010
13	09/13/2005	13:30	23.7	13.80	1.12	9.18	112	0.04	5.65	0.10	14.8	11.0	148	<0.04
	06/14/2006	09:30	25.9	15.70	1.27	10.10	132	0.04	6.90	0.10	16.8	14.2	175	0.019
	06/14/2006 [c]	12:00	27.3	16.40	1.36	10.80	132	0.04	6.98	E0.10	16.8	14.2	173	0.02
	07/19/2006	10:30	22.7	14.30	1.25	9.12	119	0.04	5.87	0.11	14.3	12.4	162	E0.008
	07/19/2006 [c]	12:00	23.1	14.60	1.24	9.24	119	0.03	5.91	0.11	14.3	12.4	163	E0.008
	08/23/2006	10:30	20.5	13.00	1.11	8.59	110	0.02	5.24	E0.09	14.9	10.6	139	0.011
	08/23/2006 [c]	12:30	19.9	12.90	1.10	8.39	110	0.03	5.25	E0.09	14.9	10.6	145	E0.009
	09/20/2006	11:30	22.6	13.60	1.09	8.63	112	0.04	5.66	E0.07	16.0	11.3	143	<0.010
	06/07/2007	11:00	24.8	16.30	1.42	12.20	127	0.05	8.65	0.13	16.7	14.1	170	<0.020
	08/23/2007	11:00	20.2	13.30	1.14	9.50	108	0.03	6.12	E0.10	15.5	10.5	150	<0.020
	10/18/2007	10:00	20.0	11.90	1.57	9.75	101	0.02	6.77	E0.10	13.2	12.5	149	E0.016
8	08/29/2005	15:00	23.1	13.30	1.07	8.50	112	0.04	5.62	E0.10	14.9	11.4	145	<0.04
	09/14/2005	10:00	23.9	13.60	1.10	9.66	113	0.04	6.64	E0.10	14.7	10.9	151	<0.04
	06/12/2006	10:00	26.8	15.80	1.34	10.40	130	0.04	6.68	0.10	17.3	14.4	172	0.018
	07/17/2006	09:00	22.6	13.20	1.15	8.26	114	0.03	5.14	0.10	14.0	12.3	151	E0.006
	08/22/2006	09:00	20.9	12.40	1.09	8.12	107	0.02	4.95	E0.09	15.0	10.5	143	<0.010
	09/19/2006	10:00	21.0	12.10	1.04	8.11	108	0.03	5.22	0.10	14.9	10.6	137	E0.007
	06/06/2007	10:00	24.9	15.40	1.41	12.80	126	0.05	8.88	0.10	15.9	14.5	180	<0.020
	08/22/2007	11:00	19.5	11.90	0.95	8.63	105	0.03	5.54	E0.10	14.5	10.7	143	<0.020
	10/17/2007	09:30	20.9	12.20	1.92	12.10	102	0.03	10.60	E0.10	14.2	15.2	160	<0.020
10	09/12/2005	15:00	22.3	13.10	1.04	8.41	112	0.14	5.62	E0.10	14.6	11.1	139	<0.04
6	08/30/2005	12:30	22.5	13.10	0.99	8.31	105	0.03	5.64	E0.10	14.1	11.0	142	<0.04
	09/21/2006	10:30	21.2	11.80	0.94	7.25	104	0.03	4.57	E0.08	14.8	10.5	128	<0.010
5	09/01/2005	15:30	22.6	12.80	0.96	7.67	103	0.02	4.31	E0.10	14.7	10.7	140	<0.04
	09/21/2006	15:00	21.9	11.70	0.94	7.27	106	0.03	4.45	E0.09	14.2	10.2	140	<0.010

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, $NO_2 + NO_3$, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)	Clostridium perfringens, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	Escherichia coli, modified mTEC MF (col/100 mL) (90902)
1	06/04/2007	11:30	0.15	0.19	0.11	<0.002	0.036	0.033	0.062	2.7	3.5	E3	E5	E11
	08/20/2007	13:00	0.20	0.23	<0.06	<0.002	0.074	0.074	0.110	2.5	3.2	E9	E13	E14
	10/15/2007	11:30	0.18	0.17	E0.02	0.010	0.018	0.012	0.033	2.2	2.7	E5	E41	E21
2	06/04/2007	15:00	0.28	0.21	0.40	0.018	0.078	0.067	0.097	2.2	2.8	E13	E55	E39
	08/20/2007	15:30	0.16	0.19	0.09	0.007	0.067	0.062	0.086	2.4	2.9	E5	E37	E66
	10/15/2007	15:00	0.19	0.16	0.12	0.006	0.039	0.031	0.054	2.2	2.8	E8	E5	E32
3	06/05/2007	10:30	0.16	0.24	0.40	0.007	0.046	0.041	0.065	1.7	2.3	25	E30	E81
	08/21/2007	11:00	0.14	0.19	E0.05	0.003	0.051	0.046	0.064	2.2	3.0	E13	23	40
	10/16/2007	12:00	E0.13	0.18	0.09	E0.002	0.030	0.025	0.043	2.1	2.2	E5	E58	E23
4	06/05/2007	14:00	0.14	E0.09	0.13	E0.002	E0.005	E0.006	E0.008	1.1	1.3	E1	E3	E5
	08/21/2007	15:00	0.15	0.13	<0.06	<0.002	E0.004	0.006	0.010	2.1	2.0	E2	E59	E39
	10/16/2007	15:00	E0.12	E0.11	<0.04	<0.002	0.007	E0.006	0.011	1.5	1.9	E1	E39	E20
7	08/31/2005	12:30	0.17	0.13	<0.06	<0.008	0.006	<0.020	0.011	2.0	2.9	E5	E27	E10
	09/20/2006	09:00	E0.08	0.14	<0.06	<0.002	E0.003	0.007	0.009	1.7	2.0	E4	E12	E15
	06/05/2007	16:00	0.11	0.10	0.07	E0.001	0.008	0.006	0.013	1.5	1.6	E2	E1	E6
	08/22/2007	09:30	0.12	E0.10	<0.06	<0.002	E0.005	0.006	0.013	1.7	1.5	E5	E10	E21
	10/17/2007	12:00	E0.13	E0.11	E0.03	<0.002	0.010	0.006	0.012	1.5	1.6	E2	E22	E16
9	09/12/2005	13:00	0.13	0.12	<0.06	<0.008	0.018	<0.020	0.025	1.8	2.2	<1	E15	E2
	06/12/2006	13:30	0.18	0.17	0.21	0.002	0.031	0.025	0.040	1.6	1.7	E4	E4	E15
	07/17/2006	15:00	0.23	0.17	E0.04	<0.002	0.017	0.013	0.028	1.9	1.8	E7	E30	EE18
	08/22/2006	12:30	0.17	0.12	<0.06	E0.001	0.011	0.011	0.021	2.0	2.0	E2	E7	E2
	09/19/2006	12:30	0.13	0.11	<0.06	<0.002	0.014	0.010	0.019	1.5	1.2	E5	E8	E16
	06/06/2007	14:30	0.19	0.19	E0.04	E0.001	0.034	0.024	0.045	1.7	2.0	E14	E7	E15
	08/22/2007	15:30	<0.10	E0.10	<0.06	E0.001	0.009	0.013	0.014	1.4	2.2	E5	E5	E1
	10/17/2007	13:30	0.22	0.23	0.04	E0.001	0.082	0.070	0.100	3.1	4.0	E16	E120	E100
11	09/13/2005	10:30	0.15	0.23	<0.06	<0.008	0.018	E0.010	0.031	2.2	2.2	E20	E29	E26
	06/13/2006	13:00	0.15	0.18	0.21	0.004	0.025	0.021	0.034	1.4	1.7	E7	E6	E8
	07/18/2006	15:30	0.23	0.21	<0.06	<0.002	0.019	0.014	0.037	2.0	2.2	E9	E15	E12
	08/22/2006	15:00	0.26	0.14	<0.06	<0.002	0.015	0.011	0.020	1.9	1.8	E11	E6	E6
	09/20/2006	14:00	0.10	E0.09	<0.06	<0.002	0.011	0.011	0.021	1.3	2.1	E5	E5	E12
	06/07/2007	13:00	0.16	0.18	<0.06	<0.002	0.027	0.023	0.050	1.7	2.3	E15	E55	E14
	08/23/2007	12:30	E0.07	0.14	<0.06	<0.002	0.012	0.015	0.026	1.5	2.2	E9	E3	E27
	10/18/2007	12:00	0.20	0.23	E0.04	E0.001	0.076	0.065	0.094	2.9	3.7	E5	E46	E62
12	09/12/2005	10:00	0.15	0.18	<0.06	<0.008	0.019	<0.020	0.030	1.8	2.0	<1	E11	E15

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, $NO_2 + NO_3$, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)	Clostridium perfringens, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	Escherichia coli, modified mTEC MF (col/100 mL) (90902)
	06/13/2006	14:30	0.19	0.15	0.18	0.002	0.027	0.021	0.040	1.6	1.7	E4	E5	E14
	07/18/2006	13:30	0.26	0.18	<0.06	<0.002	0.015	0.012	0.029	2.1	2.2	E2	E4	E18
	08/22/2006	14:30	0.19	0.16	<0.06	E0.001	0.016	0.015	0.019	1.7	1.9	E8	E2	E5
	09/19/2006	14:00	0.12	E0.08	<0.06	<0.002	0.016	0.013	0.016	1.4	1.7	E4	E2	E3
14	09/13/2005	17:00	0.14	0.15	<0.06	<0.008	0.019	E0.01	0.023	2.3	2.5	<1	E1	E7
	06/15/2006	12:30	0.18	0.14	0.15	0.003	0.024	0.021	0.037	1.6	2.5	E4	E1	E5
	07/20/2006	11:30	0.23	0.16	<0.06	<0.002	0.022	0.018	0.033	1.8	E2.4	<1	E4	E15
	08/24/2006	13:00	0.17	0.10	<0.06	<0.002	0.018	0.016	0.019	1.5	1.1	E6	E1	E3
	09/22/2006	12:30	0.14	E0.10	<0.06	<0.002	0.013	0.012	0.016	1.8	1.7	E6	E6	E5
13	09/13/2005	13:30	0.15	0.15	<0.06	<0.008	<0.04	E0.010	E0.030	2.9	2.4	E4	E14	E16
	06/14/2006	09:30	0.16	0.14	0.17	0.003	0.036	0.023	0.038	1.4	1.8	E14	E6	E7
	06/14/2006 [c]	12:00	0.20	0.14	0.17	0.003	0.026	0.023	0.040	1.6	1.8	E2	E6	E14
	07/19/2006	10:30	0.17	0.17	<0.06	<0.002	0.017	0.015	0.029	1.5	2.0	<1	E8	E58
	07/19/2006 [c]	12:00	0.27	0.18	<0.06	<0.002	0.017	0.013	0.028	1.9	2.1	E8	E4	E9
	08/23/2006	10:30	0.20	0.12	<0.06	<0.002	0.019	0.016	0.018	1.8	1.5	E3	E4	E10
	08/23/2006 [c]	12:30	0.20	E0.08	<0.06	<0.002	0.017	0.016	0.019	1.5	1.8	E4	E2	E8
	09/20/2006	11:30	0.11	0.12	<0.06	<0.002	0.014	0.014	0.017	1.4	1.5	E3	E1	E8
	06/07/2007	11:00	0.16	0.16	<0.06	<0.002	0.026	0.024	0.046	1.7	2.2	E15	E14	E18
	08/23/2007	11:00	E0.08	0.13	<0.06	<0.002	0.016	0.016	0.023	1.6	2.4	E5	E16	E12
	10/18/2007	10:00	0.21	0.18	0.08	E0.002	0.054	0.046	0.059	2.6	2.6	E7	E220	E97
8	08/29/2005	15:00	0.14	0.16	<0.06	<0.008	0.019	<0.020	0.025	2.3	3.4	E5	E42	E40
	09/14/2005	10:00	0.13	0.30	<0.06	<0.008	0.018	E0.010	0.031	2.8	3.7	<1	E21	E8
	06/12/2006	10:00	0.17	0.17	0.22	0.002	0.034	0.029	0.048	3.1	2.1	E1	E12	E12
	07/17/2006	09:00	0.20	0.18	<0.06	<0.002	0.014	0.012	0.026	1.4	1.9	E12	E110	E23
	08/22/2006	09:00	0.16	0.17	<0.06	E0.002	0.012	0.010	0.020	1.8	2.1	E2	E8	E4
	09/19/2006	10:00	0.11	E0.09	<0.06	<0.002	0.009	0.011	0.021	1.4	1.9	E6	E14	E9
	06/06/2007	10:00	0.12	0.14	E0.05	E0.002	0.036	0.028	0.048	1.7	1.9	E11	E6	E21
	08/22/2007	11:00	E0.08	0.12	<0.06	<0.002	0.009	0.012	0.017	1.6	2.0	E5	E8	E2
	10/17/2007	09:30	0.20	0.36	0.05	E0.002	0.084	0.074	0.104	3.0	4.0	26	E180	E110
10	09/12/2005	15:00	0.13	0.15	<0.06	<0.008	0.020	<0.020	0.025	1.8	3.5	E6	E20	E4
6	08/30/2005	12:30	0.15	0.16	<0.06	E0.007	0.006	<0.020	0.012	2.7	2.3	E5	E56	E8
	09/21/2006	10:30	E0.08	0.13	E0.03	<0.002	0.006	0.008	0.011	1.3	1.6	E8	E26	E21
5	09/01/2005	15:30	0.16	0.15	<0.06	<0.008	0.008	<0.020	0.013	2.0	2.5	E3	E38	E5
	09/21/2006	15:00	0.20	0.13	E0.04	<0.002	0.005	0.007	0.013	1.5	1.9	E8	E8	E10

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Total coliform, mEndo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as Sb) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)
1	06/04/2007	11:30	E2	2.7	0.08	1.0	50	<0.06	184	<0.04	0.29	0.04	2.0	46
	08/20/2007	13:00	E38	2.2	0.07	2.9	61	<0.06	216	<0.04	E0.10	0.24	E0.37	275
	10/15/2007	11:30	E62	E3.5	<0.56	2.5	86	<0.03	352	<0.16	<0.48	<0.10	E2.5	<8
2	06/04/2007	15:00	E100	2.1	0.07	0.89	66	<0.06	294	<0.04	0.18	0.12	1.4	7
	08/20/2007	15:30	E130	2.6	0.07	2.2	53	<0.06	218	<0.04	E0.10	0.08	0.98	12
	10/15/2007	15:00	E240	E3.5	<0.56	2.1	82	<0.03	341	<0.16	<0.48	E0.06	E2.0	E4
3	06/05/2007	10:30	E290	E1.6	0.07	0.82	79	<0.06	414	<0.04	0.21	0.10	1.5	E6
	08/21/2007	11:00	180	2.6	0.06	1.6	57	<0.06	299	<0.04	0.13	0.07	1.3	13
	10/16/2007	12:00	E200	<6.4	<0.56	1.9	88	<0.04	413	<0.16	E0.24	0.09	<4.0	E7
4	06/05/2007	14:00	E5	3.0	0.11	0.60	106	<0.06	336	<0.04	0.40	0.06	1.1	E3
	08/21/2007	15:00	E32	1.8	0.09	0.79	87	<0.06	271	<0.04	0.21	0.08	0.94	16
	10/16/2007	15:00	E33	<6.4	<0.56	0.90	105	<0.04	397	<0.16	E0.26	E0.05	<4.0	E5
7	08/31/2005	12:30	E36	E1.0	<0.2	0.60	65	<0.06	288	0.15	<0.80	0.079	1.2	11
	09/20/2006	09:00	E45	E1.4	<0.2	0.67	67	<0.06	185	<0.04	0.27	0.06	0.85	E4
	06/05/2007	16:00	E12	2.2	0.08	0.59	72	<0.06	217	<0.04	0.33	0.05	1.2	8
	08/22/2007	09:30	E55	2.5	0.07	0.65	62	<0.06	263	<0.04	0.25	0.05	0.76	12
	10/17/2007	12:00	E150	<4.8	<0.42	0.67	70	<0.02	323	<0.12	E0.30	E0.07	<3.0	11
9	09/12/2005	13:00	E16	E2.0	<0.2	0.77	61	<0.06	236	<0.04	0.23	–	–	13
	06/12/2006	13:30	E70	E1.2	<0.2	0.70	78	<0.06	190	<0.04	0.30	0.107	0.80	E5
	07/17/2006	15:00	E45	1.6	<0.2	0.67	69	<0.06	192	<0.04	0.32	0.05	1.6	E5
	08/22/2006	12:30	E40	E1.1	<0.2	0.69	60	<0.06	129	<0.04	0.26	<0.12	E0.72	7
	09/19/2006	12:30	E62	E1.6	<0.2	0.70	70	<0.06	64	<0.04	0.08	E0.02	0.77	10
	06/06/2007	14:30	E100	2.5	0.09	0.82	74	<0.06	212	<0.04	0.31	0.08	1.7	11
	08/22/2007	15:30	E7	3.0	0.11	0.69	65	<0.06	218	<0.04	1.9	0.85	0.97	21
	10/17/2007	13:30	E1,900	<4.8	<0.42	1.1	64	<0.02	236	<0.12	E0.22	0.14	E1.8	21
11	09/13/2005	10:30	E43	2.0	<0.2	0.73	64	<0.06	203	<0.04	0.23	–	–	17
	06/13/2006	13:00	E67	E1.3	<0.2	0.73	77	<0.06	190	<0.04	0.30	0.097	2.3	E4
	07/18/2006	15:30	E55	E1.5	<0.2	0.93	72	<0.06	186	<0.04	0.27	0.04	1.9	E4
	08/22/2006	15:00	E28	2.0	<0.2	0.79	65	<0.06	172	<0.04	0.31	0.04	1.2	6
	09/20/2006	14:00	E15	2.6	<0.2	0.70	67	<0.06	182	<0.04	0.22	0.08	1.8	12
	06/07/2007	13:00	E67	E1.1	0.1	1.1	74	<0.06	204	<0.04	0.28	0.07	0.85	8
	08/23/2007	12:30	E120	3.3	0.1	0.79	65	<0.06	206	<0.04	0.20	0.73	0.71	8
	10/18/2007	12:00	E1,200	E1.6	E0.13	1.0	65	<0.01	256	<0.04	0.21	0.09	1.7	20
12	09/12/2005	10:00	E30	E1.0	<0.2	0.81	63	<0.06	237	<0.04	0.22	–	–	11

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Total coliform, mEndo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as Sb) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)
	06/13/2006	14:30	E42	E0.9	<0.2	0.64	76	<0.06	188	<0.04	0.29	0.104	0.9	E4
	07/18/2006	13:30	E100	E1.6	<0.2	0.91	73	<0.06	182	E0.02	0.25	E0.03	2.6	E4
	08/22/2006	14:30	E22	E1.0	<0.2	0.78	64	<0.06	86	<0.04	0.25	<0.12	E0.9	E4
	09/19/2006	14:00	E21	1.7	<0.2	0.81	69	<0.06	67	<0.04	0.08	E0.02	1.2	7
14	09/13/2005	17:00	E2	2.0	<0.2	0.72	63	<0.06	197	<0.04	0.22	–	–	17
	06/15/2006	12:30	E85	<1.6	E0.11	0.71	75	<0.06	181	<0.04	0.27	0.103	1.0	6
	07/20/2006	11:30	E60	E1.1	<0.2	0.97	76	<0.06	169	<0.04	0.26	E0.03	3.6	E3
	08/24/2006	13:00	E10	E1.4	<0.2	0.87	68	<0.06	183	<0.04	0.28	0.04	1.5	E6
	09/22/2006	12:30	E14	E1.2	<0.2	0.79	64	<0.06	182	<0.04	0.22	0.06	0.72	9
13	09/13/2005	13:30	E34	E1.0	<0.2	0.82	64	<0.06	199	<0.04	0.24	–	–	9
	06/14/2006	09:30	E54	E1.1	<0.2	0.66	77	<0.06	183	<0.04	0.26	0.111	1.1	7
	06/14/2006 [c]	12:00	E90	E1.6	E0.11	0.79	78	<0.06	182	<0.04	0.24	0.101	1.6	E6
	07/19/2006	10:30	E67	E1.0	<0.2	0.96	75	<0.06	<8	<0.04	0.26	E0.03	2.2	E4
	07/19/2006 [c]	12:00	E40	7.5	<0.2	0.96	74	<0.06	<8	<0.04	0.26	E0.03	1.2	E4
	08/23/2006	10:30	E26	E1.6	<0.2	0.77	68	<0.06	181	<0.04	0.27	0.04	1.2	E6
	08/23/2006 [c]	12:30	E29	1.7	<0.2	0.80	67	<0.06	183	<0.04	0.27	0.04	0.89	6
	09/20/2006	11:30	E17	E1.3	<0.2	0.80	68	<0.06	212	<0.04	0.23	0.05	1.2	9
	06/07/2007	11:00	E97	E1.5	0.1	1.2	74	<0.06	227	<0.04	0.27	0.06	1.2	7
	08/23/2007	11:00	E25	2.5	0.1	1.0	64	<0.06	196	<0.04	0.18	0.68	0.81	11
	10/18/2007	10:00	E410	E1.4	0.14	0.86	65	<0.01	111	<0.04	0.19	0.05	1.8	18
8	08/29/2005	15:00	E61	2.0	<0.2	0.70	63	<0.06	263	<0.04	<0.80	0.097	1.2	10
	09/14/2005	10:00	E42	E1.0	<0.2	0.69	67	E0.05	219	<0.04	0.24	–	–	7
	06/12/2006	10:00	E73	1.6	<0.2	0.71	76	<0.06	190	<0.04	0.32	0.097	1.0	E5
	07/17/2006	09:00	E130	1.8	<0.2	0.67	70	<0.06	188	<0.04	0.31	0.04	3.3	6
	08/22/2006	09:00	E68	E0.8	<0.2	0.69	60	<0.06	154	<0.04	0.26	<0.12	1.3	E4
	09/19/2006	10:00	E22	1.9	<0.2	0.72	66	<0.06	70	<0.04	0.23	0.05	0.94	7
	06/06/2007	10:00	E100	2.6	0.08	0.77	73	<0.06	203	<0.04	0.31	0.07	2.4	8
	08/22/2007	11:00	E25	2.1	0.07	0.66	67	<0.06	252	<0.04	0.24	0.05	0.99	8
	10/17/2007	09:30	E2,000	<4.8	<0.42	1.1	64	<0.02	245	<0.12	E0.22	0.14	<3.0	20
10	09/12/2005	15:00	E13	E2.0	<0.2	0.76	62	<0.06	234	<0.04	0.23	–	–	12
6	08/30/2005	12:30	E23	2.0	<0.2	0.6	67	<0.06	266	<0.04	<0.80	0.081	1.2	14
	09/21/2006	10:30	E49	E1.3	<0.2	0.62	70	<0.06	185	<0.04	0.25	0.06	1.2	E5
5	09/01/2005	15:30	E28	2.0	<0.2	0.70	55	<0.06	344	<0.04	0.06	0.084	1.2	17
	09/21/2006	15:00	E38	E1.5	<0.2	0.65	71	<0.06	199	E0.02	0.26	0.06	0.99	7

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)
1	06/04/2007	11:30	<0.12	2.1	9.6	0.012	0.4	1.3	0.1	<0.1	175	<0.04	0.63	E0.44
	08/20/2007	13:00	<0.12	1.3	315	0.015	0.4	1.4	0.08	<0.1	198	<0.04	0.76	<0.60
	10/15/2007	11:30	<0.32	E3.1	11.2	<0.010	E0.7	1.1	E0.15	<0.4	280	<0.16	4.1	<7.2
2	06/04/2007	15:00	<0.12	2.9	9.7	0.011	0.4	1.4	E0.07	<0.1	198	<0.04	0.70	2.5
	08/20/2007	15:30	<0.12	1.4	25.6	0.021	0.4	1.3	0.08	<0.1	197	<0.04	0.79	<0.60
	10/15/2007	15:00	<0.32	E3.2	10.8	<0.010	E0.7	0.94	E0.11	<0.4	266	<0.16	3.2	<7.2
3	06/05/2007	10:30	<0.12	3.2	5.0	E0.009	0.4	1.4	E0.07	<0.1	236	<0.04	0.88	0.84
	08/21/2007	11:00	<0.12	2.3	4.4	0.012	0.5	1.4	E0.07	<0.1	207	<0.04	0.83	E0.45
	10/16/2007	12:00	<0.32	E3.0	4.0	<0.010	E0.7	1.4	<0.16	<0.4	289	<0.16	2.0	<7.2
4	06/05/2007	14:00	<0.12	3.8	3.2	E0.009	0.5	1.5	E0.06	<0.1	300	<0.04	1.1	<0.60
	08/21/2007	15:00	<0.12	3.1	5.8	0.017	0.4	1.5	E0.05	<0.1	249	<0.04	1.2	<0.60
	10/16/2007	15:00	<0.32	4.8	3.4	<0.010	E0.5	1.8	<0.16	<0.4	323	<0.16	1.3	<7.2
7	08/31/2005	12:30	<0.08	2.8	8.5	0.018	E0.4	1.66	<0.4	<0.2	230	<0.04	1	E0.4
	09/20/2006	09:00	E0.04	2.4	6.3	<0.010	E0.4	1.4	E0.05	<0.2	203	E0.03	1	1.2
	06/05/2007	16:00	<0.12	2.6	12.0	0.016	0.4	1.3	E0.06	<0.1	218	<0.04	1	E0.33
	08/22/2007	09:30	<0.12	2.7	3.6	0.013	0.4	1.2	E0.06	<0.1	194	<0.04	1.2	<0.60
	10/17/2007	12:00	<0.24	3.3	6.4	<0.010	E0.4	1.5	E0.07	<0.3	211	<0.12	1	<5.4
9	09/12/2005	13:00	<0.08	3.3	7.7	<0.010	E0.4	–	E0.06	<0.2	208	<0.04	1.2	–
	06/12/2006	13:30	<0.08	3.5	18.2	<0.010	0.4	1.9	E0.06	<0.2	243	<0.04	1.1	E0.3
	07/17/2006	15:00	<0.08	2.6	8.5	<0.010	E0.4	1.5	E0.06	<0.4	207	<0.04	1.2	2.7
	08/22/2006	12:30	<0.08	2.8	10.5	<0.010	E0.4	1.2	E0.06	<0.6	198	<0.04	1.2	<0.60
	09/19/2006	12:30	<0.08	3.1	12.9	<0.010	<0.4	1.2	E0.04	<0.2	217	<0.04	1.1	E0.35
	06/06/2007	14:30	<0.12	3.6	21.2	0.012	0.5	1.6	E0.04	<0.1	222	<0.04	1.5	E0.36
	08/22/2007	15:30	<0.12	2.9	10.1	<0.010	0.4	1.5	E0.06	<0.1	193	<0.04	1.3	0.72
	10/17/2007	13:30	<0.24	E2.2	26.7	<0.010	E0.5	2.3	E0.08	<0.3	188	<0.12	1.3	<5.4
11	09/13/2005	10:30	<0.08	2.3	3.4	<0.010	E0.4	–	0.08	<0.2	214	<0.04	1.1	E0.42
	06/13/2006	13:00	E0.05	3.6	9.6	<0.010	E0.4	1.94	E0.05	<0.2	240	<0.04	1.2	1.0
	07/18/2006	15:30	E0.04	2.8	2.7	<0.010	E0.4	1.7	E0.07	<0.4	203	<0.04	1.7	0.83
	08/22/2006	15:00	E0.04	2.6	2.6	<0.010	0.4	1.3	E0.06	<0.2	203	<0.04	1.6	1.3
	09/20/2006	14:00	0.11	2.6	3.5	<0.010	0.4	1.3	E0.04	<0.6	208	<0.04	1.4	3.5
	06/07/2007	13:00	<0.12	3.4	10.0	E0.007	0.5	1.7	E0.07	<0.1	205	<0.04	1.9	1.6
	08/23/2007	12:30	<0.12	2.5	2.4	<0.010	0.4	1.2	E0.05	<0.1	188	<0.04	1.6	0.74
	10/18/2007	12:00	<0.08	3.5	12.1	<0.010	0.5	2.1	0.06	<0.1	185	<0.04	1.4	<1.8
12	09/12/2005	10:00	<0.08	3.4	2.4	<0.010	E0.4	–	E0.06	<0.2	206	<0.04	1.4	–
	06/13/2006	14:30	<0.08	3.0	9.9	<0.010	E0.4	2.09	E0.05	<0.2	240	<0.04	1.2	E0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)
	07/18/2006	13:30	E0.04	2.8	1.4	<0.010	E0.4	1.6	E0.07	<0.4	203	<0.04	1.6	1.2
	08/22/2006	14:30	E0.06	2.7	3.1	<0.010	0.4	0.45	<0.24	<0.6	201	<0.04	1.6	0.63
	09/19/2006	14:00	E0.06	3.1	4.9	<0.010	<0.4	1.3	E0.06	<0.2	220	<0.04	1.2	1.6
14	09/13/2005	17:00	<0.08	2.0	6.8	<0.010	E0.4	–	E0.06	<0.2	212	<0.04	1.2	1.3
	06/15/2006	12:30	<0.08	2.9	5.9	<0.010	0.4	2.13	0.09	<0.2	237	<0.04	1.3	E0.50
	07/20/2006	11:30	<0.08	2.8	4.3	<0.010	0.4	1.5	E0.07	<0.2	212	<0.04	1.7	1.3
	08/24/2006	13:00	<0.08	2.9	7.8	<0.010	0.4	1.3	E0.04	<0.2	211	<0.04	1.7	<0.60
	09/22/2006	12:30	E0.04	2.8	8.9	0.012	0.4	1.4	E0.06	<0.2	210	<0.04	1.5	E0.57
13	09/13/2005	13:30	<0.08	2.1	4.7	<0.010	E0.4	–	0.10	<0.2	213	<0.04	1.1	E0.53
	06/14/2006	09:30	<0.08	3.0	10.9	<0.010	E0.4	2.23	E0.04	<0.2	241	<0.04	1.1	0.7
	06/14/2006 [c]	12:00	E0.07	3.1	9.1	<0.010	0.4	2.22	E0.07	<0.2	244	<0.04	1.2	1.2
	07/19/2006	10:30	<0.08	2.9	2.5	<0.010	<0.4	1.5	E0.07	<0.2	208	<0.04	1.7	1.4
	07/19/2006 [c]	12:00	<0.08	2.8	3.2	<0.010	<0.4	1.5	E0.06	<0.2	205	<0.04	1.7	E0.45
	08/23/2006	10:30	E0.05	2.6	8.1	<0.010	0.4	1.4	E0.05	<0.2	204	<0.04	1.6	E0.52
	08/23/2006 [c]	12:30	<0.08	2.7	8.7	<0.010	0.4	1.3	E0.05	<0.2	207	<0.04	1.5	<0.60
	09/20/2006	11:30	E0.05	2.6	10.3	<0.010	0.4	1.4	E0.06	<0.6	212	<0.04	1.4	1.5
	06/07/2007	11:00	<0.12	3.2	7.5	E0.007	0.5	1.8	E0.06	<0.1	198	<0.04	1.9	0.98
	08/23/2007	11:00	<0.12	2.1	29.1	<0.010	0.4	1.2	E0.05	<0.1	187	<0.04	1.7	E0.57
	10/18/2007	10:00	<0.08	22.2	5.4	<0.010	0.5	1.4	E0.03	<0.1	171	<0.04	1.2	<1.8
8	08/29/2005	15:00	<0.08	2.9	10.7	<0.010	0.4	1.98	<0.4	<0.2	213	<0.04	2.4	0.9
	09/14/2005	10:00	<0.08	1.9	6.2	<0.010	E0.4	–	E0.07	<0.2	219	<0.04	0.98	1.9
	06/12/2006	10:00	<0.08	3.5	14.1	<0.010	0.4	1.81	E0.07	<0.2	240	<0.04	1.2	E0.5
	07/17/2006	09:00	0.10	2.6	5.3	<0.010	E0.3	1.8	E0.05	<0.4	208	<0.04	1.1	0.91
	08/22/2006	09:00	0.08	2.7	5.4	<0.010	E0.4	1.2	E0.05	<0.6	196	<0.04	1.2	0.77
	09/19/2006	10:00	<0.08	3.0	5.2	–	E0.3	1.2	E0.04	<0.2	207	<0.04	1.1	1.0
	06/06/2007	10:00	E0.11	3.6	13.4	E0.009	0.5	1.6	E0.07	<0.1	216	<0.04	1.3	1.3
	08/22/2007	11:00	<0.12	2.8	3.9	0.018	0.4	1.3	E0.04	<0.1	198	<0.04	1.1	E0.53
	10/17/2007	09:30	<0.24	3.1	33.6	<0.010	E0.4	2.2	E0.07	<0.3	184	<0.12	1.2	<5.4
10	09/12/2005	15:00	<0.08	3.4	10.0	<0.010	E0.4	–	E0.06	<0.2	210	<0.04	1.2	–
6	08/30/2005	12:30	<0.08	3.3	7.8	0.012	E0.4	1.67	<0.4	<0.2	225	<0.04	1.3	1.1
	09/21/2006	10:30	<0.08	2.3	7.6	<0.010	E0.3	1.3	E0.04	<0.2	201	<0.04	0.93	0.62
5	09/01/2005	15:30	<0.08	2.7	3.0	0.011	E0.4	1.98	<0.4	<0.2	209	<0.04	1.2	1.2
	09/21/2006	15:00	E0.04	2.7	6.3	<0.010	E0.4	1.2	E0.06	<0.2	208	<0.04	1.0	1.1

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	1,4-Dichlorobenzene, dissolved (µg/L) (34572)	1-Methylnaphthalene, dissolved (µg/L) (62054)	2, 6-Dimethylnaphthalene, dissolved (µg/L) (62055)	2-Methylnaphthalene, dissolved (µg/L) (62056)	3-β-Coprostanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumylphenol, dissolved (µg/L) (62060)	4-*n*-Octylphenol, dissolved (µg/L) (62061)	4-Nonylphenol, dissolved (µg/L) (62085)	4-Nonylphenol diethoxylates dissolved (µg/L) (62083)	4-Octylphenol diethoxylates dissolved (µg/L) (61705)
1	06/04/2007	11:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/20/2007	13:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/15/2007	11:30	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
2	06/04/2007	15:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/20/2007	15:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/15/2007	15:00	–	–	–	–	–	–	–	–	–	–	–	–
3	06/05/2007	10:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/21/2007	11:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/16/2007	12:00	<0.1	<0.1	<0.1	<0.1	<2	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
4	06/05/2007	14:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/21/2007	15:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/16/2007	15:00	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
7	08/31/2005	12:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/20/2006	09:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	–
	06/05/2007	16:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/22/2007	09:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/17/2007	12:00	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
9	09/12/2005	13:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	06/12/2006	13:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/17/2006	15:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/22/2006	12:30	–	–	–	–	–	–	–	–	–	–	–	–
	09/19/2006	12:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	06/06/2007	14:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/22/2007	15:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/17/2007	13:30	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
11	09/13/2005	10:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	06/13/2006	13:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/18/2006	15:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/22/2006	15:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/20/2006	14:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	–
	06/07/2007	13:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/23/2007	12:30	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/18/2007	12:00	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
12	09/12/2005	10:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	1,4-Dichloro-benzene, dissolved (µg/L) (34572)	1-Methyl-naphthalene, dissolved (µg/L) (62054)	2, 6-Dimethyl-naphthalene, dissolved (µg/L) (62055)	2-Methyl-naphthalene, dissolved (µg/L) (62056)	3-β-Coprostanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxy-anisole, dissolved (µg/L) (62059)	4-Cumyl-phenol, dissolved (µg/L) (62060)	4-*n*-Octyl-phenol, dissolved (µg/L) (62061)	4-Nonyl-phenol, dissolved (µg/L) (62085)	4-Nonyl-phenol di-ethoxylates dissolved (µg/L) (62083)	4-Octyl-phenol di-ethoxylates dissolved (µg/L) (61705)
	06/13/2006	14:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/18/2006	13:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/22/2006	14:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/19/2006	14:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
14	09/13/2005	17:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	06/15/2006	12:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/24/2006	13:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/22/2006	12:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	–
13	09/13/2005	13:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	06/14/2006	09:30	–	–	–	–	–	–	–	–	–	–	–	–
	06/14/2006 [c]	12:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/19/2006	10:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/19/2006 [c]	12:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/23/2006	10:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/23/2006 [c]	12:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	–
	06/07/2007	11:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/23/2007	11:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/18/2007	10:00	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
8	08/29/2005	15:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/14/2005	10:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	06/12/2006	10:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	07/17/2006	09:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	08/22/2006	09:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/19/2006	10:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	–
	06/06/2007	10:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	08/22/2007	11:00	<0.1	<0.1	<0.2	<0.1	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1
	10/17/2007	09:30	<0.1	<0.1	<0.1	<0.1	<1	<0.08	<0.6	<0.1	<0.16	<1	<5	<1
10	09/12/2005	15:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
6	08/30/2005	12:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/21/2006	10:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
5	09/01/2005	15:30	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1
	09/21/2006	15:00	<0.5	<0.5	<0.5	<0.5	<2	<1	<5	<1	<1	<5	<5	<1

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	4-Octyl-phenol mono-ethoxylates dissolved (µg/L) (61706)	4-*tert*-Octyl-phenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzo-tri-azole, dissolved (µg/L) (62063)	9,10-Anthra-quinone, dissolved (µg/L) (62066)	Aceto-phenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzo-phenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigma-stanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)
1	06/04/2007	11:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/20/2007	13:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/15/2007	11:30	<1	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<2	<1	<0.4
2	06/04/2007	15:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/20/2007	15:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/15/2007	15:00	–	–	–	–	–	–	–	–	–	–	–	–
3	06/05/2007	10:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/21/2007	11:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/16/2007	12:00	<1	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
4	06/05/2007	14:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/21/2007	15:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/16/2007	15:00	<1	<1	<0.5	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
7	08/31/2005	12:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/20/2006	09:00	–	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/05/2007	16:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/22/2007	09:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/17/2007	12:00	<1	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
9	09/12/2005	13:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/12/2006	13:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/17/2006	15:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/22/2006	12:30	–	–	–	–	–	–	–	–	–	–	–	–
	09/19/2006	12:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/06/2007	14:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/22/2007	15:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/17/2007	13:30	<1	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
11	09/13/2005	10:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/13/2006	13:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/18/2006	15:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/22/2006	15:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	4-Octyl-phenol mono-ethoxylates dissolved (µg/L) (61706)	4-*tert*-Octyl-phenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzo-tri-azole, dissolved (µg/L) (62063)	9,10-Anthra-quinone, dissolved (µg/L) (62066)	Aceto-phenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzo-phenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigma-stanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)
	09/20/2006	14:00	–	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/07/2007	13:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/23/2007	12:30	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/18/2007	12:00	<1	<0.1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
12	09/12/2005	10:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/13/2006	14:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/18/2006	13:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/22/2006	14:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/19/2006	14:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
14	09/13/2005	17:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/15/2006	12:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/20/2006	11:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/24/2006	13:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/22/2006	12:30	–	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
13	09/13/2005	13:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/14/2006	09:30	–	–	–	–	–	–	–	–	–	–	–	–
	06/14/2006 [c]	12:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/19/2006	10:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/19/2006 [c]	12:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/23/2006	10:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/23/2006 [c]	12:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/20/2006	11:30	–	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/07/2007	11:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/23/2007	11:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/18/2007	10:00	<1	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
8	08/29/2005	15:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/14/2005	10:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	06/12/2006	10:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	07/17/2006	09:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	08/22/2006	09:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/19/2006	10:00	–	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	4-Octyl-phenol mono-ethoxylates dissolved (µg/L) (61706)	4-*tert*-Octyl-phenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzo-tri-azole, dissolved (µg/L) (62063)	9,10-Anthra-quinone, dissolved (µg/L) (62066)	Aceto-phenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzo-phenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigma-stanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)
	06/06/2007	10:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	08/22/2007	11:00	<1	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
	10/17/2007	09:30	<1	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<3	<1	<0.4
10	09/12/2005	15:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
6	08/30/2005	12:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/21/2006	10:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
5	09/01/2005	15:30	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5
	09/21/2006	15:00	<1	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft³/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)	Fluor-anthene, dissolved (mg/L) (34377)	HHCB, dissolved (µg/L) (62075)
1	06/04/2007	11:30	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/20/2007	13:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/15/2007	11:30	<0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
2	06/04/2007	15:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/20/2007	15:30	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/15/2007	15:00	–	–	–	–	–	–	–	–	–	–	–	–
3	06/05/2007	10:30	<0.2	<0.1	<1	<0.1	<0.2	–	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/21/2007	11:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.1	<0.2	<0.1	<0.1	<0.5
	10/16/2007	12:00	<0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
4	06/05/2007	14:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/21/2007	15:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.400	<0.2	<0.2	<0.1	<0.1	<0.5
	10/16/2007	15:00	<0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
7	08/31/2005	12:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	09/20/2006	09:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	06/05/2007	16:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/22/2007	09:30	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/17/2007	12:00	<0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
9	09/12/2005	13:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	06/12/2006	13:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	07/17/2006	15:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	08/22/2006	12:30	–	–	–	–	–	–	–	–	–	–	–	–
	09/19/2006	12:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	06/06/2007	14:30	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/22/2007	15:30	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/17/2007	13:30	E0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
11	09/13/2005	10:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	06/13/2006	13:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	15:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<1.00	<0.5	<0.005	<0.5	<0.5	<0.5
	08/22/2006	15:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	09/20/2006	14:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	06/07/2007	13:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/23/2007	12:30	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/18/2007	12:00	E0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
12	09/12/2005	10:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)	Fluor-anthene, dissolved (mg/L) (34377)	HHCB, dissolved (µg/L) (62075)
	06/13/2006	14:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	13:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	08/22/2006	14:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	09/19/2006	14:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
14	09/13/2005	17:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	06/15/2006	12:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<0.028	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	11:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<1.00	<0.5	<0.005	<0.5	<0.5	<0.5
	08/24/2006	13:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	09/22/2006	12:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
13	09/13/2005	13:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	06/14/2006	09:30	–	–	–	–	–	–	–	–	–	–	–	–
	06/14/2006 [c]	12:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	07/19/2006	10:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<1.00	<0.5	<0.005	<0.5	<0.5	<0.5
	07/19/2006 [c]	12:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	08/23/2006	10:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	08/23/2006 [c]	12:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	09/20/2006	11:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	06/07/2007	11:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/23/2007	11:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/18/2007	10:00	E0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
8	08/29/2005	15:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	09/14/2005	10:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	06/12/2006	10:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<0.028	<0.5	<0.5	<0.5	<0.5	<0.5
	07/17/2006	09:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<1.00	<0.5	<0.005	<0.5	<0.5	<0.5
	08/22/2006	09:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	09/19/2006	10:00	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5
	06/06/2007	10:00	<0.2	<0.1	–	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	08/22/2007	11:00	<0.2	<0.1	<1	<0.1	<0.2	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5
	10/17/2007	09:30	E0.1	<0.1	<1	<0.1	<0.1	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5
10	09/12/2005	15:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
6	08/30/2005	12:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	10:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
5	09/01/2005	15:30	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	15:00	<0.5	<0.5	<1	<0.5	<0.5	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Indole, dissolved (µg/L) (62076)	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Isopropyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)	Naphthalene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenan-threne, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)
1	06/04/2007	11:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	E0.05	<0.1	<0.4
	08/20/2007	13:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	E0.06	<0.1	<0.4
	10/15/2007	11:30	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
2	06/04/2007	15:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/20/2007	15:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/15/2007	15:00	–	–	–	–	–	–	–	–	–	–	–	–	–
3	06/05/2007	10:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/21/2007	11:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/16/2007	12:00	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
4	06/05/2007	14:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/21/2007	15:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/16/2007	15:00	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
7	08/31/2005	12:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	09/20/2006	09:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	06/05/2007	16:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/22/2007	09:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/17/2007	12:00	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
9	09/12/2005	13:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	06/12/2006	13:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	07/17/2006	15:00	<0.5	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	08/22/2006	12:30	–	–	–	–	–	–	–	–	–	–	–	–	–
	09/19/2006	12:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	06/06/2007	14:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/22/2007	15:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/17/2007	13:30	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
11	09/13/2005	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	06/13/2006	13:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	07/18/2006	15:30	<0.5	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	08/22/2006	15:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	09/20/2006	14:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	06/07/2007	13:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/23/2007	12:30	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/18/2007	12:00	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
12	09/12/2005	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.—Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Indole, dissolved (µg/L) (62076)	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Isopropyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)	Naphthalene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenan-threne, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)
	06/13/2006	14:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	07/18/2006	13:30	<0.5	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	08/22/2006	14:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	09/19/2006	14:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
14	09/13/2005	17:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	06/15/2006	12:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	07/20/2006	11:30	<0.5	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	08/24/2006	13:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	09/22/2006	12:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
13	09/13/2005	13:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	06/14/2006	09:30	–	–	–	–	–	–	–	–	–	–	–	–	–
	06/14/2006 [c]	12:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	07/19/2006	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	E0.005	<0.5	<1.0	<0.5	<0.01
	07/19/2006 [c]	12:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	08/23/2006	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	08/23/2006 [c]	12:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	09/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	06/07/2007	11:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/23/2007	11:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/18/2007	10:00	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
8	08/29/2005	15:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	09/14/2005	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	06/12/2006	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	07/17/2006	09:00	<0.5	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	08/22/2006	09:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	09/19/2006	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006	<0.5	<1.0	<0.5	<0.01
	06/06/2007	10:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	08/22/2007	11:00	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2	<0.1	<0.18	<0.1	<0.4
	10/17/2007	09:30	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
10	09/12/2005	15:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
6	08/30/2005	12:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	09/21/2006	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
5	09/01/2005	15:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5
	09/21/2006	15:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.–Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Pyrene, dissolved (µg/L) (34470)	Tetrachloro-ethene, dissolved (µg/L) (34476)	Tribromo-methane, dissolved (µg/L) (34288)	Tributyl phosphate, dissolved (µg/L) (62089)	Triclosan, dissolved (µg/L) (62090)	Triethyl citrate, dissolved (µg/L) (62091)	Triphenyl phosphate, dissolved (µg/L) (62092)	Tris(2-bu-toxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chlo-roethyl) phosphate, dissolved (µg/L) (62087)	Tris(dichloro-isopropyl) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)
1	06/04/2007	11:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–52.60	–7.59
	08/20/2007	13:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–53.70	–7.64
	10/15/2007	11:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–47.40	–6.32
2	06/04/2007	15:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	E0.1	<0.2	<0.2	–	50.30	–7.43
	08/20/2007	15:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–52.40	–7.49
	10/15/2007	15:00	–	–	–	–	–	–	–	–	–	–	–	–48.90	–6.33
3	06/05/2007	10:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–48.80	–7.27
	08/21/2007	11:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–51.50	–7.50
	10/16/2007	12:00	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–47.60	–6.35
4	06/05/2007	14:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–44.20	–6.66
	08/21/2007	15:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–47.10	–6.92
	10/16/2007	15:00	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–46.30	–6.50
7	08/31/2005	12:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–11.80	–48.20	–7.20
	09/20/2006	09:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.03	–46.90	–7.00
	06/05/2007	16:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–40.30	–6.09
	08/22/2007	09:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–42.30	–6.25
	10/17/2007	12:00	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–43.30	–6.16
9	09/12/2005	13:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–47.20	–7.06
	06/12/2006	13:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.54	–41.80	–6.53
	07/17/2006	15:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.62	–43.10	–6.64
	08/22/2006	12:30	–	–	–	–	–	–	–	–	–	–	–12.44	–44.20	–6.83
	09/19/2006	12:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.60	–46.50	–6.93
	06/06/2007	14:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–38.90	–5.84
	08/22/2007	15:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–41.80	–6.11
	10/17/2007	13:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–42.10	–6.17
11	09/13/2005	10:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–48.00	–7.04
	06/13/2006	13:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.60	–42.20	–6.61
	07/18/2006	15:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.96	–41.50	–6.56
	08/22/2006	15:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.31	–44.10	–6.65
	09/20/2006	14:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.69	–45.90	–6.81
	06/07/2007	13:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–38.90	–5.74
	08/23/2007	12:30	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–40.90	–5.92
	10/18/2007	12:00	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–41.80	–6.22
12	09/12/2005	10:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–45.90	–7.03
	06/13/2006	14:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.68	–41.70	–6.51

Table 6. Discharge measurements and water-quality data collected for 14 Russian River sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2007.–Continued.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; col/100 mL, colonies per 100 milliliters; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Pyrene, dissolved (µg/L) (34470)	Tetrachloro-ethene, dissolved (µg/L) (34476)	Tribromo-methane, dissolved (µg/L) (34288)	Tributyl phosphate, dissolved (µg/L) (62089)	Triclosan, dissolved (µg/L) (62090)	Triethyl citrate, dissolved (µg/L) (62091)	Triphenyl phosphate, dissolved (µg/L) (62092)	Tris(2-bu-toxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chlo-roethyl) phosphate, dissolved (µg/L) (62087)	Tris(dichloro-isopropyl) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)
	07/18/2006	13:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.60	–41.30	–6.42
	08/22/2006	14:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.44	–44.00	–6.63
	09/19/2006	14:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.36	–45.70	–6.82
14	09/13/2005	17:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–46.60	–6.89
	06/15/2006	12:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.58	–40.90	–6.44
	07/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–41.40	–6.36
	08/24/2006	13:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.44	–43.10	–6.48
	09/22/2006	12:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.31	–44.20	–6.64
13	09/13/2005	13:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–46.40	–6.94
	06/14/2006	09:30	–	–	–	–	–	–	–	–	–	–	–12.97	–40.80	–6.45
	06/14/2006 [c]	12:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.00	–41.10	–6.48
	07/19/2006	10:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.65	–42.40	–6.42
	07/19/2006 [c]	12:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.53	–42.10	–6.48
	08/23/2006	10:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.52	–43.90	–6.60
	08/23/2006 [c]	12:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.42	–43.70	–6.50
	09/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.64	–45.10	–6.79
	06/07/2007	11:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–37.50	–5.68
	08/23/2007	11:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–39.00	–5.76
	10/18/2007	10:00	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–43.00	–6.18
8	08/29/2005	15:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.03	–47.80	–6.99
	09/14/2005	10:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–49.40	–7.22
	06/12/2006	10:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.56	–42.20	–6.56
	07/17/2006	09:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.71	–43.30	–6.67
	08/22/2006	09:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.21	–44.00	–6.86
	09/19/2006	10:00	<0.1	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5	<0.5	–12.63	–46.70	–6.92
	06/06/2007	10:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–39.30	–5.92
	08/22/2007	11:00	<0.1	<0.2	<0.1	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–41.40	–6.17
	10/17/2007	09:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–42.00	–6.15
10	09/12/2005	15:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–48.00	–7.07
6	08/30/2005	12:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.00	–49.20	–7.24
	09/21/2006	10:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–46.90	–7.08
5	09/01/2005	15:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–11.92	–50.50	–7.42
	09/21/2006	15:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.64	–43.50	–6.53

[a] Grab sample; [b] Daily streamflow measurement obtained from NWIS web; [c] Sequential replicate sample. See report for description.

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Discharge, inst (ft^3/s) (00061)	Turbidity, infrared LED (FNU) (63680)	Barometric pressure, (mm of Hg) (00025)	Dissolved oxygen, (mg/L as O_2) (00300)	Dissolved oxygen, (percent saturation) (00301)	pH, field (standard units) (00400)
15	383009122543001	Green Valley Creek near Mirabel	06/12/2006	11:30	5.58	3.0	763	8.9	91	7.6
			07/17/2006	12:30	0.94	2.5	769	6.8	77	6.9
16	382955122594101	Pocket Canyon Creek at Guerneville	06/13/2006	08:30	1.51	4.3	767	9.4	91	7.2
			07/18/2006	09:30	0.17	2.4	762	7.1	73	6.9
17	383006123000601	Fife Creek at Guerneville	06/13/2006	10:30	1.33	2.7	765	9.6	94	7.7
18	382944123002901	Hulbert Creek near Guerneville	06/13/2006	11:30	1.87	0.8	765	9.5	92	7.2
			07/18/2006	11:30	0.2	0.9	763	4.6	48	6.9
			08/24/2006	15:30	–	0.3	–	4.2	–	6.7
19	382752123003401	Dutch Bill Creek at Monte Rio	06/14/2006	13:30	2.79	0.3	766	9.1	89	7.3
			07/19/2006	14:00	0.31	0.4	763	7.4	76	7.2
			08/24/2006	15:00	–	0.0	–	4.9	–	6.8
20	382815123024601	Austin Creek near Duncans Mills	06/15/2006	15:00	24.3	0.3	764	10.6	115	8.0
			07/20/2006	14:30	5.76	0.5	–	8.7	–	7.7
			08/24/2006	10:30	1.25	0.2	762	8.1	86	7.6

Map site no.	Date	Time	Specific conductance, field (µS/cm) (00095)	Temperature, water (˚C) (00010)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)
15	06/12/2006	11:30	279	16.3	21.3	13.6	1.81	16.4	104
	07/17/2006	12:30	264	21.6	18.5	12.0	2.11	15.7	101
16	06/13/2006	08:30	145	14.1	12.9	5.08	1.10	8.94	59
	07/18/2006	09:30	203	17.0	16.7	9.29	1.26	9.32	88
17	06/13/2006	10:30	237	14.6	17.1	15.9	0.87	8.16	112
18	06/13/2006	11:30	144	14.2	13.7	5.65	0.84	6.83	61
	07/18/2006	11:30	172	17.1	17.0	6.38	1.02	7.08	76
	08/24/2006	15:30	211	15.7	21.5	8.42	1.14	7.46	100
19	06/14/2006	13:30	223	14.3	13.7	17.0	0.90	7.42	105
	07/19/2006	14:00	224	16.7	12.9	16.8	0.98	7.58	105
	08/24/2006	15:00	245	15.2	13.4	17.0	1.02	7.58	110
20	06/15/2006	15:00	269	19.5	16.2	21.3	0.66	6.91	133
	07/20/2006	14:30	283	22.4	17.3	21.3	0.82	7.27	138
	08/24/2006	10:30	283	17.9	17.4	20.8	0.81	7.19	137

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)
15	06/12/2006	11:30	0.10	14.80	0.10	22.1	16.40	174	E0.006	0.28
	07/17/2006	12:30	0.09	15.10	0.14	24.9	11.00	172	<0.01	0.27
16	06/13/2006	08:30	0.04	7.13	0.12	17.9	3.35	95	E0.008	E0.09
	07/18/2006	09:30	0.07	7.37	0.12	18.9	5.13	119	E0.008	0.16
17	06/13/2006	10:30	E0.02	4.90	0.16	19.4	8.32	136	E0.007	E0.07
18	06/13/2006	11:30	0.02	4.85	0.11	15.9	6.03	93	E0.009	<0.1
	07/18/2006	11:30	E0.02	5.13	0.11	16.6	4.29	102	0.016	E0.1
	08/24/2006	15:30	0.04	5.16	E0.07	18.8	2.96	124	0.026	0.13
19	06/14/2006	13:30	0.02	7.29	E0.08	21.1	4.14	139	0.010	E0.09
	07/19/2006	14:00	0.03	7.51	E0.10	22.3	4.36	137	E0.008	E0.07
	08/24/2006	15:00	0.04	7.66	E0.07	23.3	4.23	132	E0.006	0.40
20	06/15/2006	15:00	E0.01	5.77	E0.08	16.8	5.82	151	E0.007	0.12
	07/20/2006	14:30	<0.02	6.35	0.11	19.2	6.17	155	<0.01	0.13
	08/24/2006	10:30	E0.01	6.71	E0.06	19.8	6.21	164	E0.006	0.12

Map site no.	Date	Time	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, NO_2 + NO_3, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)
15	06/12/2006	11:30	0.26	<0.06	<0.002	0.073	0.069	0.098	4.0	4.1
	07/17/2006	12:30	0.23	0.07	<0.002	0.13	0.124	0.143	3.1	3.5
16	06/13/2006	08:30	0.10	<0.06	<0.002	0.029	0.028	0.039	1.4	1.6
	07/18/2006	09:30	E0.09	E0.06	<0.002	0.037	0.034	0.050	1.9	2.1
17	06/13/2006	10:30	0.10	<0.06	<0.002	0.021	0.021	0.025	1.5	1.0
18	06/13/2006	11:30	E0.06	E0.05	<0.002	0.018	0.020	0.019	0.5	0.4
	07/18/2006	11:30	<0.1	E0.05	<0.002	0.037	0.035	0.045	0.8	1.2
	08/24/2006	15:30	E0.09	<0.06	<0.002	0.031	0.031	0.043	1.1	0.8
19	06/14/2006	13:30	<0.1	<0.06	<0.002	0.022	0.022	0.024	0.9	1.1
	07/19/2006	14:00	<0.1	0.08	<0.002	0.023	0.025	0.025	0.8	0.9
	08/24/2006	15:00	E0.07	0.06	<0.002	0.017	0.015	0.023	0.8	0.5
20	06/15/2006	15:00	<0.1	<0.06	<0.002	0.014	E0.023	0.035	0.7	0.9
	07/20/2006	14:30	<0.1	E0.06	<0.002	0.019	0.018	0.021	0.7	0.5
	08/24/2006	10:30	<0.1	E0.05	<0.002	0.019	0.020	0.021	0.5	E0.3

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	*Clostridium perfringens*, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	*Escherichia coli*, modified mTEC MF (col/100 mL) (90902)	Total coliform, mEndo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as Sb) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)
15	06/12/2006	11:30	E3	E25	E22	E100	E0.9	<0.2	1.2	44
	07/17/2006	12:30	E2	E59	E160	E300	E1.0	<0.2	1.5	43
16	06/13/2006	08:30	<1	E120	E150	E570	E1.4	<0.2	0.33	33
	07/18/2006	09:30	<1	E270	E160	E660	1.6	<0.2	0.39	49
17	06/13/2006	10:30	E1	E210	E59	E2700	2.0	E0.12	0.41	36
18	06/13/2006	11:30	E2	E80	E36	E150	E1.1	<0.2	0.41	38
	07/18/2006	11:30	<1	E1	E1	E83	1.8	<0.2	1.0	47
	08/24/2006	15:30	<1	E2	E5	E260	1.7	<0.2	1.4	70
19	06/14/2006	13:30	E5	E7	E31	E100	E1.4	<0.2	0.21	31
	07/19/2006	14:00	<1	E7	E6	E770	E0.9	<0.2	0.24	37
	08/24/2006	15:00	<1	E3	E13	E140	E0.9	<0.2	0.17	43
20	06/15/2006	15:00	<1	E2	E2	E1500	E1.1	<0.2	0.21	34
	07/20/2006	14:30	E1	E15	E22	E67	1.7	<0.2	0.26	42
	08/24/2006	10:30	E3	E14	E12	E71	1.6	<0.2	0.27	44

Map site no.	Date	Time	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)
15	06/12/2006	11:30	<0.06	42	<0.04	0.26	0.127	1.9	27	E0.05
	07/17/2006	12:30	<0.06	52	<0.04	0.20	0.06	1.0	9	<0.08
16	06/13/2006	08:30	<0.06	33	E0.02	0.09	0.109	0.8	34	<0.08
	07/18/2006	09:30	<0.06	32	<0.04	0.16	0.10	1.1	27	<0.08
17	06/13/2006	10:30	<0.06	84	<0.04	0.31	0.073	4.3	E6	0.09
18	06/13/2006	11:30	<0.06	37	<0.04	0.30	0.048	2.2	E6	<0.08
	07/18/2006	11:30	<0.06	42	<0.04	0.09	0.44	0.46	417	<0.08
	08/24/2006	15:30	<0.06	46	<0.04	0.08	0.96	<0.4	371	<0.08
19	06/14/2006	13:30	<0.06	31	<0.04	1.0	0.087	0.5	9	<0.08
	07/19/2006	14:00	<0.06	33	<0.04	1.0	0.05	E0.26	10	<0.08
	08/24/2006	15:00	<0.06	37	<0.04	1.0	0.09	<0.4	11	<0.08
20	06/15/2006	15:00	<0.06	43	<0.04	0.97	0.045	1.3	E3	E0.06
	07/20/2006	14:30	<0.06	50	<0.04	0.87	E0.02	1.5	E4	<0.08
	08/24/2006	10:30	<0.06	50	<0.04	0.77	0.04	E0.3	E6	<0.08

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)
15	06/12/2006	11:30	2.9	27.9	<0.01	0.8	4.08	E0.06	<0.2	186
	07/17/2006	12:30	1.9	31.4	<0.01	E0.4	2.9	0.08	<0.2	160
16	06/13/2006	08:30	1.4	37.7	<0.01	<0.4	0.89	<0.08	<0.2	116
	07/18/2006	09:30	1.3	48.4	<0.01	<0.4	1.9	<0.08	<0.2	141
17	06/13/2006	10:30	2.1	17.6	E0.009	E0.2	4.52	E0.06	<0.2	129
18	06/13/2006	11:30	1.4	4.5	<0.01	<0.4	0.57	E0.06	<0.2	117
	07/18/2006	11:30	1.2	187	<0.01	E0.2	0.66	<0.08	<0.2	141
	08/24/2006	15:30	1.5	531	<0.01	E0.3	2.4	<0.08	<0.2	192
19	06/14/2006	13:30	0.8	7.6	<0.01	<0.4	4.01	E0.05	<0.2	82.5
	07/19/2006	14:00	1.0	7.9	–	<0.4	5.0	E0.04	<0.2	85
	08/24/2006	15:00	1.2	8.2	<0.01	<0.4	6.9	E0.05	<0.2	96.8
20	06/15/2006	15:00	0.9	2.3	<0.01	E0.2	1.36	<0.08	<0.2	127
	07/20/2006	14:30	1.0	4.6	<0.01	E0.3	1.4	E0.04	<0.2	139
	08/24/2006	10:30	1.1	9.1	<0.01	0.4	1.8	<0.08	<0.2	147

Map site no.	Date	Time	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)	1,4-Dichlorobenzene, dissolved (µg/L) (34572)	1-Methylnaphthalene, dissolved (µg/L) (62054)	2, 6-Dimethylnaphthalene, dissolved (µg/L) (62055)	2-Methylnaphthalene, dissolved (µg/L) (62056)	3-β-Coprostanol, dissolved (µg/L) (62057)
15	06/12/2006	11:30	<0.04	0.54	1.0	<0.5	<0.5	<0.5	<0.5	<2
	07/17/2006	12:30	<0.04	0.73	0.6	<0.5	<0.5	<0.5	<0.5	<2
16	06/13/2006	08:30	<0.04	0.28	0.9	<0.5	<0.5	<0.5	<0.5	<2
	07/18/2006	09:30	<0.04	0.31	1.2	<0.5	<0.5	<0.5	<0.5	<2
17	06/13/2006	10:30	<0.04	0.46	1.8	<0.5	<0.5	<0.5	<0.5	<2
18	06/13/2006	11:30	<0.04	0.46	1.7	<0.5	<0.5	<0.5	<0.5	<2
	07/18/2006	11:30	<0.04	0.45	E0.54	<0.5	<0.5	<0.5	<0.5	<2
	08/24/2006	15:30	E0.03	0.31	0.62	<0.5	<0.5	<0.5	<0.5	<2
19	06/14/2006	13:30	<0.04	0.68	E0.40	<0.5	<0.5	<0.5	<0.5	<2
	07/19/2006	14:00	<0.04	0.73	E0.41	<0.5	<0.5	<0.5	<0.5	<2
	08/24/2006	15:00	<0.04	0.64	0.83	<0.5	<0.5	<0.5	<0.5	<2
20	06/15/2006	15:00	<0.04	0.64	1.0	<0.5	<0.5	<0.5	<0.5	<2
	07/20/2006	14:30	<0.04	0.74	0.74	<0.5	<0.5	<0.5	<0.5	<2
	08/24/2006	10:30	<0.04	0.67	E0.33	<0.5	<0.5	<0.5	<0.5	<2

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumylphenol, dissolved (µg/L) (62060)	4-*n*-Octylphenol, dissolved (µg/L) (62061)	4-Nonylphenol, dissolved (µg/L) (62085)	4-Nonylphenol diethoxylates dissolved (µg/L) (62083)	4-Octylphenol diethoxylates dissolved (µg/L) (61705)	4-Octylphenol monoethoxylates dissolved (µg/L) (61706)
15	06/12/2006	11:30	<1	<5	<1	<1	<5	<5	<1	<1
	07/17/2006	12:30	<1	<5	<1	<1	<5	<5	<1	<1
16	06/13/2006	08:30	<1	<5	<1	<1	<5	<5	<1	<1
	07/18/2006	09:30	<1	<5	<1	<1	<5	<5	<1	<1
17	06/13/2006	10:30	<1	<5	<1	<1	<5	<5	<1	<1
18	06/13/2006	11:30	<1	<5	<1	<1	<5	<5	<1	<1
	07/18/2006	11:30	<1	<5	<1	<1	<5	<5	<1	<1
	08/24/2006	15:30	<1	<5	<1	<1	<5	<5	<1	<1
19	06/14/2006	13:30	<1	<5	<1	<1	<5	<5	<1	<1
	07/19/2006	14:00	<1	<5	<1	<1	<5	<5	<1	<1
	08/24/2006	15:00	<1	<5	<1	<1	<5	<5	<1	<1
20	06/15/2006	15:00	<1	<5	<1	<1	<5	<5	<1	<1
	07/20/2006	14:30	<1	<5	<1	<1	<5	<5	<1	<1
	08/24/2006	10:30	<1	<5	<1	<1	<5	<5	<1	<1

Map site no.	Date	Time	4-*tert*-Octylphenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzotriazole, dissolved (µg/L) (62063)	9,10-Anthraquinone, dissolved (µg/L) (62066)	Acetophenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzophenone, dissolved (µg/L) (62067)
15	06/12/2006	11:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/17/2006	12:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
16	06/13/2006	08:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	09:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17	06/13/2006	10:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
18	06/13/2006	11:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	11:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
19	06/14/2006	13:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/19/2006	14:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
20	06/15/2006	15:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	14:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	10:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigmastanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)
15	06/12/2006	11:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	07/17/2006	12:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
16	06/13/2006	08:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	07/18/2006	09:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
17	06/13/2006	10:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
18	06/13/2006	11:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	07/18/2006	11:30	<2	<2	<0.5	<0.5	E0.1	<1	<0.5	<0.5
	08/24/2006	15:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
19	06/14/2006	13:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	07/19/2006	14:00	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	08/24/2006	15:00	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
20	06/15/2006	15:00	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	07/20/2006	14:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	08/24/2006	10:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5

Map site no.	Date	Time	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)	Fluoranthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)	Indole, dissolved (µg/L) (62076)
15	06/12/2006	11:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/17/2006	12:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
16	06/13/2006	08:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	09:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17	06/13/2006	10:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
18	06/13/2006	11:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	11:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
19	06/14/2006	13:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/19/2006	14:00	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:00	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
20	06/15/2006	15:00	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	14:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	10:30	<2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Isopropylbenzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)
15	06/12/2006	11:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/17/2006	12:30	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5
16	06/13/2006	08:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	09:30	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5
17	06/13/2006	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
18	06/13/2006	11:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	11:30	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5
	08/24/2006	15:30	<0.5	<0.5	<0.5	<0.5	E0.1	<0.5	<0.5	<0.5
19	06/14/2006	13:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/19/2006	14:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:00	<0.5	<0.5	<0.5	<0.5	E0.1	<0.5	<0.5	<0.5
20	06/15/2006	15:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	14:30	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5
	08/24/2006	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Map site no.	Date	Time	Naphthalene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenanthrene, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)	Pyrene, dissolved (µg/L) (34470)	Tetrachloroethene, dissolved (µg/L) (34476)	Tri-bromomethane, dissolved (µg/L) (34288)	Tri-butyl phosphate, dissolved (µg/L) (62089)
15	06/12/2006	11:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/17/2006	12:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
16	06/13/2006	08:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	09:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17	06/13/2006	10:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
18	06/13/2006	11:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/18/2006	11:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
19	06/14/2006	13:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/19/2006	14:00	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	15:00	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
20	06/15/2006	15:00	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	14:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/24/2006	10:30	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 7. Discharge measurements and water-quality data collected from six tributary sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; $CaCO_3$, calcium carbonate; Hg, mercury; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity unit; mm, millimeter; µS/cm, microsiemens per centimeter; col/100 mL, colonies per 100 milliliters; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Triclosan, dissolved (µg/L) (62090)	Tri-ethyl citrate, dissolved (µg/L) (62091)	Tri-phenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chloroethyl) phosphate, dissolved (µg/L) (62087)	Tris(di-chloro-isopropy) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)
15	06/12/2006	11:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–14.61	–30.80	–5.22
	07/17/2006	12:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.08	–29.30	–4.86
16	06/13/2006	08:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.53	–32.50	–5.70
	07/18/2006	09:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–14.68	–31.70	–5.53
17	06/13/2006	10:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.18	–33.30	–5.75
18	06/13/2006	11:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.72	–33.40	–5.67
	07/18/2006	11:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–14.41	–33.70	–5.66
	08/24/2006	15:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–14.80	–33.70	–5.67
19	06/14/2006	13:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.12	–32.20	–5.57
	07/19/2006	14:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.95	–32.50	–5.60
	08/24/2006	15:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.36	–33.20	–5.54
20	06/15/2006	15:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.07	–33.50	–5.77
	07/20/2006	14:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.60	–33.70	–5.46
	08/24/2006	10:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.05	–32.60	–5.27

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Discharge, inst. (ft^3/s) (00061)	Turbidity, infrared LED (FNU) (63680)	Barometric pressure, (mm of Hg) (00025)	Dissolved oxygen, (mg/L as O_2) (00300)	Dissolved oxygen, (percent saturation) (00301)
21	11465350	Dry Creek near month near Healdsburg	08/21/2007	16:30	84	2.9	760	9.7	102
			10/18/2007	15:30	92	1.7	764	10.9	103
22	11466800	Mark West Creek near Mirabel Heights	09/14/2005	14:00	9.2	18.0	762	8.3	85
			06/14/2006	15:30	32	29.5	767	7.4	80
			07/20/2006	08:00	11	33.7	762	6.2	69
			08/23/2006	16:00	8	25.3	763	8.8	99
			09/22/2006	09:00	3.2	40.7	758	7.3	76
			06/06/2007	12:30	14.4	22.1	764	7.4	79
			08/22/2007	13:30	1.9	4.8	763	7.0	78
			10/17/2007	15:30	56	13	764	5.4	–
23	383121122512801	McLaughlin Pond near Windsor	08/30/2005	16:00	a	4.8	758	7.6	90
			09/21/2006	09:00	a	3.9	762	9.3	–

Map site no.	Date	Time	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)	Temperature, water (˚C) (00010)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)
21	08/21/2007	16:30	8.2	158	17.7	13.5	7.49	0.70	7.44	68
	10/18/2007	15:30	8.0	156	13.1	13.8	7.88	0.75	7.08	70
22	09/14/2005	14:00	7.9	547	16.2	41.4	32.3	3.5	38.5	246
	06/14/2006	15:30	7.8	480	18.9	33.7	24.6	3.0	27.5	206
	07/20/2006	08:00	7.8	545	20.5	37.6	27.9	3.3	33.5	237
	08/23/2006	16:00	7.9	545	21.2	33.9	27.3	3.6	33.3	237
	09/22/2006	09:00	7.7	521	16.2	37.8	26.9	3.0	33.0	232
	06/06/2007	12:30	7.9	501	18.2	35.0	26.0	3.6	34.4	209
	08/22/2007	13:30	7.9	575	20.8	37.2	30.4	3.2	39.7	246
	10/17/2007	15:30	7.2	280	14.3	17.6	12.2	3.5	21.1	91
23	08/30/2005	16:00	7.5	774	23.6	22.8	17.4	2.8	5.14	84
	09/21/2006	09:00	8.3	224	–	19.8	12.9	2.2	4.74	77

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)
21	08/21/2007	16:30	<0.02	4.90	E.09	14.90	6.7	101	<0.020	E0.07
	10/18/2007	15:30	E0.01	4.07	0.12	14.60	7.0	101	E0.013	E0.13
22	09/14/2005	14:00	0.12	35.3	0.17	38.00	17.4	347	E0.03	0.37
	06/14/2006	15:30	0.14	24.8	0.12	33.50	15.8	301	0.038	0.34
	07/20/2006	08:00	0.11	28.6	0.17	32.70	15.3	335	0.066	0.57
	08/23/2006	16:00	0.12	27.6	0.15	34.50	17.7	339	0.032	0.40
	09/22/2006	09:00	0.11	26.0	0.13	34.70	15.4	319	0.025	0.34
	06/06/2007	12:30	0.11	28.8	0.15	28.10	18.3	310	0.034	0.35
	08/22/2007	13:30	0.10	32.3	0.16	31.00	17.9	358	0.26	0.35
	10/17/2007	15:30	–	22.0	E.11	17.80	17.3	191	0.51	0.61
23	08/30/2005	16:00	0.12	3.63	E0.07	7.03	46.6	164	<0.04	0.21
	09/21/2006	09:00	E0.02	3.23	E0.07	6.89	33.1	123	0.25	0.30

Map site no.	Date	Time	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, NO_2 + NO_3, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)
21	08/21/2007	16:30	0.12	E0.04	0.002	0.009	0.011	0.013	1.5	2
	10/18/2007	15:30	E.010	0.07	E.001	0.010	0.009	0.013	1.5	1.7
22	09/14/2005	14:00	0.40	E0.05	E0.004	0.23	0.21	0.28	5.9	5.8
	06/14/2006	15:30	0.48	E0.06	0.003	0.189	0.181	0.27	4.0	6.0
	07/20/2006	08:00	0.64	0.08	0.005	0.29	0.284	0.38	4.5	6.2
	08/23/2006	16:00	0.46	0.08	0.006	0.21	0.187	0.26	3.9	5.1
	09/22/2006	09:00	0.50	0.09	0.004	0.197	0.186	0.25	2.9	5.2
	06/06/2007	12:30	0.61	0.13	0.007	0.221	0.205	0.281	3.7	5.7
	08/22/2007	13:30	0.026	E0.03	0.002	0.34	0.34	0.36	3.7	4.7
	10/17/2007	15:30	0.054	0.25	0.014	0.187	0.21	0.251	6.9	6.6
23	08/30/2005	16:00	0.22	<0.06	<0.008	0.004	<0.02	0.008	5.2	4.4
	09/21/2006	09:00	E0.01	<0.06	<0.002	E0.004	E0.003	0.007	2.9	3.7

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	*Clostridium perfringens*, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	*Escherichia coli*, modified mTEC MF (col/100 mL) (90902)	Total coliform, mEndo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as Sb) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)
21	08/21/2007	16:30	E7	E16	E24	E58	2.5	E0.04	0.36	29
	10/18/2007	15:30	E6	E17	E12	E780	E1.0	<0.14	0.32	31
22	09/14/2005	14:00	E7	E210	E80	E87	E1.1	<0.20	2.1	85
	06/14/2006	15:30	73	E47	E110	E260	1.8	E0.13	2.1	72
	07/20/2006	08:00	E25	E93	E31	E180	E1.0	E0.11	3.0	85
	08/23/2006	16:00	E11	E120	E72	E470	7.8	E0.13	2.6	89
	09/22/2006	09:00	46	E290	E130	E260	E0.9	E0.13	2.3	85
	06/06/2007	12:30	E53	E45	E61	E110	E1.0	0.15	2.2	82
	08/22/2007	13:30	E16	E28	E32	E100	3.5	0.14	2.9	87
	10/17/2007	15:30	42	E1800	E530	E2200	2.9	0.46	1.8	44
23	08/30/2005	16:00	<1	E4	<1	E330	2.3	0.20	1.2	83
	09/21/2006	09:00	E7	E2	E1	<1	3.6	E0.17	1.4	78

Map site no.	Date	Time	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)
21	08/21/2007	16:30	<0.06	76	<0.04	0.32	E0.03	0.97	14	<0.12
	10/18/2007	15:30	<0.01	80	<0.04	0.26	0.02	1.3	12	<0.08
22	09/14/2005	14:00	<0.06	195	<0.04	0.15	–	–	E5	<0.08
	06/14/2006	15:30	<0.06	132	<0.04	0.12	0.269	2.8	9	0.12
	07/20/2006	08:00	<0.06	158	<0.04	0.12	0.20	1.1	8	E0.07
	08/23/2006	16:00	<0.06	202	<0.12	0.15	0.20	0.96	6	<0.08
	09/22/2006	09:00	<0.06	167	<0.04	0.09	0.18	0.70	E4	E0.04
	06/06/2007	12:30	<0.06	160	<0.04	E0.11	0.19	1.6	10	<0.12
	08/22/2007	13:30	<0.06	218	<0.04	E0.10	0.20	0.81	7	<0.12
	10/17/2007	15:30	<0.01	94	<0.04	0.32	0.15	4.8	45	E.07
23	08/30/2005	16:00	<0.06	56	<0.04	<0.8	0.097	1.1	<6	<0.08
	09/21/2006	09:00	<0.06	46	<0.04	0.12	E0.03	1.2	<6	<0.08

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)
21	08/21/2007	16:30	1.2	1.6	0.017	0.3	0.86	E0.07	<0.1	111
	10/18/2007	15:30	<1.0	1.3	<0.010	0.3	0.68	E0.03	<0.1	102
22	09/14/2005	14:00	10.1	95.6	<0.01	0.9	–	0.11	<0.2	243
	06/14/2006	15:30	7.9	133	<0.01	0.8	3.52	0.08	<0.2	211
	07/20/2006	08:00	8.6	209	<0.01	0.9	3.2	0.08	<0.2	233
	08/23/2006	16:00	11.0	114	<0.01	1.2	3.3	0.08	<0.2	230
	09/22/2006	09:00	11.9	122	E0.010	1.2	2.7	0.08	<0.2	227
	06/06/2007	12:30	10.3	109	E0.008	1.1	3.0	0.08	<0.1	209
	08/22/2007	13:30	10.6	174	0.015	1.2	3.7	E0.07	<0.1	241
	10/17/2007	15:30	3.7	31.3	<0.010	1.1	3.2	0.07	<0.1	94.2
23	08/30/2005	16:00	1.8	5.2	<0.01	0.5	2.12	<0.4	<0.2	180
	09/21/2006	09:00	1.3	0.2	<0.01	0.4	1.5	E0.05	<0.2	162

Map site no.	Date	Time	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)	1,4-Dichlorobenzene, dissolved (µg/L) (34572)	1-Methylnaphthalene, dissolved (µg/L) (62054)	2, 6-Dimethylnaphthalene, dissolved (µg/L) (62055)	2-Methylnaphthalene, dissolved (µg/L) (62056)	3-β-Coprostanol, dissolved (µg/L) (62057)
21	08/21/2007	16:30	<0.04	0.71	E0.41	<0.1	<0.1	<0.2	<0.1	<2
	10/18/2007	15:30	<0.04	0.60	<1.8	<0.1	<0.1	<0.1	<0.1	<1
22	09/14/2005	14:00	<0.04	3.2	2.1	<0.5	<0.5	<0.5	<0.5	<2
	06/14/2006	15:30	<0.04	3.3	1.3	<0.5	<0.5	<0.5	<0.5	<2
	07/20/2006	08:00	<0.04	4.0	0.79	<0.5	<0.5	<0.5	<0.5	<2
	08/23/2006	16:00	<0.04	4.8	0.68	<0.5	<0.5	<0.5	<0.5	<2
	09/22/2006	09:00	<0.04	4.2	0.89	<0.5	<0.5	<0.5	<0.5	<2
	06/06/2007	12:30	<0.04	3.4	E0.59	<0.1	<0.1	<0.2	<0.1	<2
	08/22/2007	13:30	<0.04	3.2	E.46	<0.1	<0.1	<0.2	<0.1	<2
	10/17/2007	15:30	<0.04	2.4	2.3	<0.1	<0.1	<0.1	<0.1	<1
23	08/30/2005	16:00	<0.04	1.2	E0.40	<0.5	<0.5	<0.5	<0.5	<2
	09/21/2006	09:00	<0.04	1.6	0.72	<0.5	<0.5	<0.5	<0.5	<2

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumylphenol, dissolved (µg/L) (62060)	4-*n*-Octylphenol, dissolved (µg/L) (62061)	4-Nonylphenol, dissolved (µg/L) (62085)	4-Nonylphenol diethoxylates dissolved (µg/L) (62083)	4-Octylphenol diethoxylates dissolved (µg/L) (61705)	4-Octylphenol monoethoxylates dissolved (µg/L) (61706)
21	08/21/2007	16:30	<0.08	<0.6	<0.14	<0.16	<2	<5	<1	<1
	10/18/2007	15:30	<0.08	<0.6	<0.1	<0.16	<1	<5	<1	<1
22	09/14/2005	14:00	<1	<5	<1	<1	<5	<5	<1	<1
	06/14/2006	15:30	<1	<5	<1	<1	<5	<5	<1	<1
	07/20/2006	08:00	<1	<5	<1	<1	<5	<5	<1	<1
	08/23/2006	16:00	<1	<5	<1	<1	<5	<5	<1	<1
	09/22/2006	09:00	<1	<5	<1	<1	<5	<5	<1	<1
	06/06/2007	12:30	<0.08	<0.6	<0.14	<0.16	<2	<5	<1	<1
	08/22/2007	13:30	<0.08	<0.6	<0.14	<0.16	<2	<5	<1	<1
	10/17/2007	15:30	<0.08	<0.6	<0.1	<0.16	<1	<5	<1	<1
23	08/30/2005	16:00	<1	<5	<1	<1	<5	<5	<1	<1
	09/21/2006	09:00	<1	<5	<1	<1	<5	<5	<1	<1

Map site no.	Date	Time	4-*tert*-Octylphenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzotriazole, dissolved (µg/L) (62063)	9,10-Anthraquinone, dissolved (µg/L) (62066)	Acetophenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (34221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzophenone, dissolved (µg/L) (62067)
21	08/21/2007	16:30	<0.10	<0.5	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2
	10/18/2007	15:30	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1
22	09/14/2005	14:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/14/2006	15:30	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	08:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/23/2006	16:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/22/2006	09:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/06/2007	12:30	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2
	08/22/2007	13:30	<0.10	<2	<0.2	<0.1	<0.5	<0.1	<0.1	<0.2
	10/17/2007	15:30	<1	<0.08	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1
23	08/30/2005	16:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	09:00	<1	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigmastanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)
21	08/21/2007	16:30	<2	<2	<0.4	<0.2	<0.1	<1	<0.1	<0.2
	10/18/2007	15:30	<3	<1	<0.4	<0.1	<0.1	<1	<0.1	<0.1
22	09/14/2005	14:00	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	06/14/2006	15:30	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	07/20/2006	08:00	<2	<2	<0.5	<0.5	<0.5	<0.041	<0.5	<0.005
	08/23/2006	16:00	<2	<2	<0.5	<0.5	<0.5	<0.041	<0.5	<0.005
	09/22/2006	09:00	<2	<2	<0.5	<0.5	<0.5	<0.041	<0.5	<0.005
	06/06/2007	12:30	<2	<2	<0.4	<0.2	<0.1	<1	<0.1	<0.2
	08/22/2007	13:30	<2	<2	<0.4	<0.2	<0.1	<1	<0.1	<0.2
	10/17/2007	15:30	<3	<1	<0.4	<0.1	<0.1	<1	<0.1	<0.2
23	08/30/2005	16:00	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5
	09/21/2006	09:00	<2	<2	<0.5	<0.5	<0.5	<1	<0.5	<0.5

Map site no.	Date	Time	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)	Fluoranthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)	Indole, dissolved (µg/L) (62076)
21	08/21/2007	16:30	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5	<0.1
	10/18/2007	15:30	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5	<0.1
22	09/14/2005	14:00	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/14/2006	15:30	<2	E0.004	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	08:00	<2	<1.00	<0.5	<0.005	<0.5	<0.5	<0.5	<0.5
	08/23/2006	16:00	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5	<0.5
	09/22/2006	09:00	<2	<0.028	<0.5	<0.005	<0.5	<0.5	<0.5	<0.5
	06/06/2007	12:30	<1	<0.028	<0.2	<0.2	<0.1	<0.1	<0.5	<0.1
	08/22/2007	13:30	<1	<E0.005	<0.2	<0.2	<0.1	<0.1	<0.5	<0.1
	10/17/2007	15:30	<1	<0.028	<0.1	<0.1	<0.04	<0.1	<0.5	<0.1
23	08/30/2005	16:00	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	09:00	<2	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Iso-propyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (mg/L) (39415)
21	08/21/2007	16:30	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2
	10/18/2007	15:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1
22	09/14/2005	14:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/14/2006	15:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	08:00	–	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.006
	08/23/2006	16:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006
	09/22/2006	09:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.006
	06/06/2007	12:30	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2
	08/22/2007	13:30	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2	<0.2
	10/17/2007	15:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1
23	08/30/2005	16:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	09:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Map site no.	Date	Time	Naphth-alene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenan-threne, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)	Pyrene, dissolved (µg/L) (34470)	Tetra-chloro-ethene, dissolved (µg/L) (34476)	Tri-bromo-methane, dissolved (µg/L) (34288)	Tri-butyl phosphate, dissolved (µg/L) (62089)
21	08/21/2007	16:30	<0.1	<0.18	<0.1	<0.4	<0.1	<0.2	<0.1	<0.2
	10/18/2007	15:30	<0.1	<0.18	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2
22	09/14/2005	14:00	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/14/2006	15:30	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/20/2006	08:00	<0.5	<1.00	<0.5	<0.01	<0.5	<0.5	<0.5	<0.5
	08/23/2006	16:00	<0.5	<1.00	<0.5	<0.01	<0.5	<0.5	<0.5	<0.5
	09/22/2006	09:00	<0.5	<1.00	<0.5	<0.01	<0.5	<0.5	<0.5	<0.5
	06/06/2007	12:30	<0.1	<0.18	<0.1	<0.4	<0.1	<0.2	<0.1	<0.2
	08/22/2007	13:30	<0.1	<0.18	<0.1	<0.4	<0.1	<0.2	<0.1	<0.2
	10/17/2007	15:30	<0.1	<0.18	<0.1	<0.2	<0.1	<0.1	<0.1	E0.1
23	08/30/2005	16:00	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	09:00	<0.5	<1.00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 8. Discharge measurements and water-quality data collected from Dry Creek, Mark West Creek, and a gravel-terrace pit site in the Lower Russian River Basin, Sonoma County, California, 2005–2007.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury; col/100 mL, colonies per 100 milliliters; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Triclosan, dissolved (µg/L) (62090)	Tri-ethyl citrate, dissolved (µg/L) (62091)	Tri-phenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chloroethyl) phosphate, dissolved (µg/L) (62087)	Tris(di-chloro-isopropy) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)
21	08/21/2007	16:30	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–38.00	–5.94
	10/18/2007	15:30	<0.2	<0.2	<0.1	<0.4	<0.1	<0.1	–	–36.40	–5.86
22	09/14/2005	14:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–	–34.10	–4.80
	06/14/2006	15:30	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.75	–32.40	–4.91
	07/20/2006	08:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–12.84	–30.30	–4.14
	08/23/2006	16:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.15	–33.20	–4.65
	09/22/2006	09:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–13.58	–33.60	–4.80
	06/06/2007	12:30	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–32.70	–4.71
	08/22/2007	13:30	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–	–31.20	–4.12
	10/17/2007	15:30	<0.2	<0.2	<0.1	E0.3	E0.1	E0.1	–	–26.20	–4.81
23	08/30/2005	16:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–10.78	–25.40	–3.07
	09/21/2006	09:00	<1	<0.5	<0.5	<0.5	<0.5	<0.5	–8.27	–32.50	–4.42

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Dissolved oxygen, (mg/L as O_2) (00300)	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)	Temperature, water (˚C) (00010)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)
24	382944122533501	8N/9W-31H1	09/01/2005	13:30	5.9	7.7	231	22.0	22.4	13.3
			09/22/2006	09:45	6.2	7.8	220	20.6	21.7	11.9
25	382948122535601	8N/9W-31G3	08/29/2005	16:00	0.9	6.5	251	19.5	17.4	13.0
			09/19/2006	15:30	1.3	6.4	222	13.7	16.4	11.5
26	383002122530601	8N/9W-32C1	08/31/2005	14:45	4.7	7.5	241	22.0	22.1	12.6
			09/20/2006	09:30	3.3	7.5	210	20.5	20.5	11.5
27	383003122540401	8N/9W-31C3	08/29/2005	11:00	0.2	7.1	283	19.9	27.6	16.8
			09/19/2006	10:00	0.2	7.3	246	20.3	21.0	13.4
28	383003122540403	8N/9W-31C5	08/29/2005	13:30	0.3	7.2	261	22.6	25.6	15.3
			09/19/2006	11:00	0.3	7.4	234	21.5	21.4	12.2
29	383035122525901	8N/9W-29L1	08/31/2005	10:00	3.7	6.9	281	17.0	25.2	17.2
			09/20/2006	11:30	2.9	7.3	210	21.6	22.1	12.0
30	383045122525701	8N/9W-29F1	09/01/2005	09:45	0.9	7.3	252	20.0	24.4	14.8
			09/20/2006	16:00	0.1	7.1	255	21.2	22.4	12.7
31	383055122523001	8N/9W-29A2	08/31/2005	11:30	0.1	7.1	612	20.0	22.8	39.2
			09/20/2006	14:00	0.2	6.9	609	19.1	22.8	37.9
32	383120122514001	8N/9W-21K1	08/30/2005	15:00	0.6	7.7	349	–	30.6	22.9
			09/21/2006	13:00	0.3	7.0	236	17.1	20.3	16.2
33	383132122514501	8N/9W-21F1	08/30/2005	10:00	2.7	6.8	537	18.0	54.0	40.1
			09/21/2006	10:30	2.9	6.6	485	16.4	48.3	34.7

Map site no.	Date	Time	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)
24	09/01/2005	13:30	1.05	7.91	103	0.04	4.67	0.13	16.0	11.4
	09/22/2006	09:45	0.93	7.36	104	0.03	4.94	E0.07	14.0	10.3
25	08/29/2005	16:00	1.59	14.40	94	0.05	10.30	E0.08	22.3	14.2
	09/19/2006	15:30	1.54	12.50	89	0.05	9.19	<0.10	21.6	15.0
26	08/31/2005	14:45	1.08	8.33	101	0.04	4.77	0.12	16.3	11.9
	09/20/2006	09:30	1.09	7.58	104	0.04	4.38	E0.08	16.0	10.8
27	08/29/2005	11:00	1.73	9.88	131	0.05	6.53	E0.10	20.2	15.4
	09/19/2006	10:00	1.36	9.25	115	0.04	5.24	0.12	20.8	10.6
28	08/29/2005	13:30	1.57	9.86	125	0.05	6.23	E0.10	18.4	13.2
	09/19/2006	11:00	1.50	8.39	107	0.03	5.41	0.10	16.3	10.7
29	08/31/2005	10:00	1.08	7.26	133	0.03	4.54	E0.09	19.1	11.4
	09/20/2006	11:30	1.08	7.57	103	0.04	4.40	0.13	16.4	10.9
30	09/01/2005	09:45	1.14	8.42	114	0.04	4.90	0.14	19.2	11.6
	09/20/2006	16:00	1.12	7.80	114	0.03	4.23	0.14	19.3	6.48
31	08/31/2005	11:30	0.87	53.00	297	0.19	11.40	0.26	24.6	28.0
	09/20/2006	14:00	0.77	51.50	297	0.18	11.80	0.25	23.6	29.6
32	08/30/2005	15:00	1.39	12.70	149	0.04	9.18	E0.09	23.8	23.6
	09/21/2006	13:00	0.83	5.71	96	0.03	3.95	E0.09	18.7	27.4
33	08/30/2005	10:00	1.43	6.98	216	0.03	5.70	E0.06	24.2	67.9
	09/21/2006	10:30	1.29	6.80	218	E0.02	4.37	<0.20	22.4	49.0

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.–Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Solids, residue at 180˚C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, NO_2 + NO_3, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)
24	09/01/2005	13:30	133	<0.04	<0.10	E0.08	E0.03	<0.008	0.020	E0.01
	09/22/2006	09:45	132	<0.010	E0.06	0.10	0.07	<0.002	0.012	0.016
25	08/29/2005	16:00	162	<0.04	E0.09	0.10	1.11	<0.008	0.018	<0.02
	09/19/2006	15:30	142	<0.010	E0.06	E0.07	0.85	<0.002	0.018	0.020
26	08/31/2005	14:45	143	<0.04	<0.10	<0.10	0.08	<0.008	0.022	<0.02
	09/20/2006	09:30	135	<0.010	<0.10	<0.10	0.13	<0.002	0.02	0.023
27	08/29/2005	11:00	185	0.23	0.29	0.33	<0.06	<0.008	0.081	0.06
	09/19/2006	10:00	155	0.116	0.17	0.16	<0.06	<0.002	0.056	0.054
28	08/29/2005	13:30	176	<0.04	E0.06	E0.07	<0.06	E0.004	0.045	0.03
	09/19/2006	11:00	135	E0.005	E0.07	0.11	0.10	<0.002	0.039	0.041
29	08/31/2005	10:00	167	<0.04	<0.10	<0.10	0.23	<0.008	0.012	<0.02
	09/20/2006	11:30	132	<0.010	<0.10	<0.10	0.11	<0.002	0.021	0.021
30	09/01/2005	09:45	149	<0.04	E0.06	E0.06	0.11	<0.008	0.021	E0.01
	09/20/2006	16:00	134	<0.010	<0.10	E0.05	<0.06	<0.002	0.035	0.035
31	08/31/2005	11:30	362	0.13	0.19	0.17	<0.06	<0.008	0.033	<0.02
	09/20/2006	14:00	352	0.134	0.15	0.14	<0.06	<0.002	0.031	0.035
32	08/30/2005	15:00	212	E0.04	E0.10	E0.09	E0.06	<0.008	0.021	<0.02
	09/21/2006	13:00	139	<0.010	<0.10	<0.10	0.12	<0.002	0.011	0.016
33	08/30/2005	10:00	338	<0.04	0.14	E0.06	1.33	<0.008	0.011	<0.02
	09/21/2006	10:30	298	<0.010	<0.10	<0.10	1.22	<0.002	0.012	0.018

Map site no.	Date	Time	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)	*Clostridium perfringens*, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	*Escherichia coli*, modified m-TEC MF (col/100 mL) (90902)	Total coliform, M-Endo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)
24	09/01/2005	13:30	0.020	0.9	1.0	<1	<1	<1	<1	2.3
	09/22/2006	09:45	0.017	0.7	1.1	<1	<1	<1	<1	E1.5
25	08/29/2005	16:00	0.017	1.5	3.1	<1	<1	<1	<1	E1.4
	09/19/2006	15:30	0.016	1.1	1.2	<1	<1	<1	<1	E1.0
26	08/31/2005	14:45	0.027	0.7	0.5	<1	<1	<1	<1	E1.0
	09/20/2006	09:30	0.022	0.4	0.4	<1	<1	<1	<1	E1.4
27	08/29/2005	11:00	0.109	1.5	2.7	E2	<1	<1	<1	E1.3
	09/19/2006	10:00	0.070	1.0	1.4	<1	<1	<1	<1	E1.4
28	08/29/2005	13:30	0.045	4.0	2.9	E1	<1	<1	<1	E0.8
	09/19/2006	11:00	0.139	0.8	1.2	E3	<1	<1	<1	1.8
29	08/31/2005	10:00	0.014	0.6	0.4	<1	E1	<1	E20	E1.1
	09/20/2006	11:30	0.020	0.4	0.5	<1	<1	<1	<1	E0.9
30	09/01/2005	09:45	0.021	0.5	1.3	<1	<1	<1	<1	<1.6
	09/20/2006	16:00	0.034	0.8	0.9	<1	E1	<1	<1	E1.4
31	08/31/2005	11:30	0.033	0.6	1.8	<1	<1	<1	<1	8.9
	09/20/2006	14:00	0.028	0.5	0.6	<1	<1	<1	<1	E1.3
32	08/30/2005	15:00	0.022	2.8	7.8	<1	<1	<1	<1	E1.0
	09/21/2006	13:00	0.011	0.4	0.8	<1	<1	<1	<1	<1.6
33	08/30/2005	10:00	0.012	5.9	2.1	<1	<1	<1	<1	<1.6
	09/21/2006	10:30	0.011	0.5	E0.4	–	–	–	–	E1.5

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Antimony, dissolved (µg/L as Sb) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)
24	09/01/2005	13:30	<0.2	0.40	57	<0.06	351	<0.04	0.07	0.066
	09/22/2006	09:45	<0.2	0.36	54	<0.06	188	<0.04	0.34	0.04
25	08/29/2005	16:00	<0.2	E0.20	116	<0.06	74	<0.04	<0.8	0.098
	09/19/2006	15:30	<0.2	0.18	118	<0.06	79	<0.04	0.57	0.05
26	08/31/2005	14:45	<0.2	0.40	64	<0.06	319	<0.04	<0.8	0.055
	09/20/2006	09:30	<0.2	0.35	68	<0.06	68	<0.04	0.2	<0.04
27	08/29/2005	11:00	<0.2	1.30	80	<0.06	232	<0.04	<0.8	0.33
	09/19/2006	10:00	<0.2	0.79	75	<0.06	75	<0.04	0.12	0.21
28	08/29/2005	13:30	E0.11	0.30	80	<0.06	269	<0.04	<0.8	0.106
	09/19/2006	11:00	<0.2	0.41	70	<0.06	63	<0.04	0.24	0.05
29	08/31/2005	10:00	<0.2	E0.20	117	<0.06	263	E0.02	<0.8	0.050
	09/20/2006	11:30	<0.2	0.32	79	<0.06	181	<0.04	0.51	E0.02
30	09/01/2005	09:45	<0.2	0.30	80	<0.06	366	<0.04	<0.04	0.068
	09/20/2006	16:00	<0.2	0.53	86	<0.06	204	<0.04	0.09	E0.02
31	08/31/2005	11:30	<0.2	0.40	133	<0.06	152	E0.03	0.07	0.644
	09/20/2006	14:00	<0.2	0.30	131	<0.06	109	<0.04	0.12	0.52
32	08/30/2005	15:00	<0.2	E0.20	209	<0.06	349	<0.04	<0.8	0.060
	09/21/2006	13:00	<0.2	0.18	95	<0.06	100	<0.04	0.42	E0.02
33	08/30/2005	10:00	<0.2	E0.20	238	<0.06	160	<0.04	<0.7	0.097
	09/21/2006	10:30	<0.2	0.22	211	<0.06	118	<0.04	0.68	E0.02

Map site no.	Date	Time	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)
24	09/01/2005	13:30	0.6	<6	<0.08	2.4	<0.2	E0.010	0.4	1.42
	09/22/2006	09:45	0.48	<6	<0.08	2.2	E0.1	0.012	E0.4	0.75
25	08/29/2005	16:00	0.8	<6	<0.08	2.0	0.4	E0.008	<0.4	3.92
	09/19/2006	15:30	0.40	<6	<0.08	2.3	1.1	<0.010	<0.4	3.20
26	08/31/2005	14:45	0.4	E4	<0.08	2.7	<0.2	<0.010	0.4	1.19
	09/20/2006	09:30	E0.23	<6	<0.08	2.3	E0.2	<0.010	<0.4	0.60
27	08/29/2005	11:00	E0.4	605	<0.08	2.0	542	<0.010	0.8	2.12
	09/19/2006	10:00	<0.40	396	<0.08	2.4	362.0	<0.010	0.7	1.20
28	08/29/2005	13:30	0.7	E4	<0.08	1.9	14.8	0.012	E0.3	1.51
	09/19/2006	11:00	E0.38	14	<0.08	2.5	30.9	<0.010	E0.4	0.86
29	08/31/2005	10:00	E0.4	<6	<0.08	2.7	0.5	<0.010	E0.2	1.77
	09/20/2006	11:30	E0.33	<6	<0.08	2.1	E0.1	<0.010	0.5	1.10
30	09/01/2005	09:45	0.4	E4	<0.08	2.2	E0.2	<0.010	0.4	1.77
	09/20/2006	16:00	0.40	<6	<0.08	2.0	1.2	<0.010	0.5	0.91
31	08/31/2005	11:30	0.5	<6	<0.08	5.4	1,240	<0.010	1.1	2.34
	09/20/2006	14:00	E0.33	E3	<0.08	4.8	1,150.0	–	1.1	2.00
32	08/30/2005	15:00	0.7	31	E0.05	10.8	40.4	<0.010	E0.3	0.95
	09/21/2006	13:00	<0.40	<6	<0.08	2.4	E0.2	<0.010	E0.2	0.82
33	08/30/2005	10:00	0.6	<6	<0.08	5.0	E0.2	<0.010	<0.4	3.46
	09/21/2006	10:30	E0.25	<6	<0.08	3.6	0.7	<0.010	<0.4	2.50

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)	1,4-Dichlorobenzene, dissolved (µg/L) (34572)	1-Methylnaphthalene, dissolved (µg/L) (62054)
24	09/01/2005	13:30	<0.4	<0.2	215	<0.04	1.5	1.7	<0.5	<0.5
	09/22/2006	09:45	E0.04	<0.2	204	<0.04	1.2	<0.60	<0.5	<0.5
25	08/29/2005	16:00	<0.4	<0.2	143	<0.04	2.0	E0.3	<0.5	<0.5
	09/19/2006	15:30	E0.05	<0.2	154	<0.04	0.39	<0.60	<0.5	<0.5
26	08/31/2005	14:45	<0.4	<0.2	217	<0.04	1.3	<0.6	<0.5	<0.5
	09/20/2006	09:30	E0.07	<0.2	214	<0.04	1.1	E0.33	<0.5	<0.5
27	08/29/2005	11:00	<0.4	<0.2	254	<0.04	1.9	<0.6	<0.5	<0.5
	09/19/2006	10:00	<0.08	<0.2	202	<0.04	0.10	0.69	<0.5	<0.5
28	08/29/2005	13:30	<0.4	<0.2	234	<0.04	0.7	<0.6	<0.5	<0.5
	09/19/2006	11:00	E0.06	<0.2	206	<0.04	0.79	E0.50	<0.5	<0.5
29	08/31/2005	10:00	<0.4	<0.2	258	<0.04	0.8	E0.3	<0.5	<0.5
	09/20/2006	11:30	E0.05	<0.2	202	E.03	1.2	E0.48	<0.5	<0.5
30	09/01/2005	09:45	<0.4	<0.2	229	<0.04	1.4	E0.5	<0.5	<0.5
	09/20/2006	16:00	<0.08	<0.2	214	0.04	1.5	2.6	<0.5	<0.5
31	08/31/2005	11:30	<0.08	<0.2	267	<0.04	0.91	0.6	<0.5	<0.5
	09/20/2006	14:00	<0.08	<0.2	244	<0.04	0.88	0.63	<0.5	<0.5
32	08/30/2005	15:00	E0.2	<0.2	305	<0.04	0.4	E0.3	<0.5	<0.5
	09/21/2006	13:00	E0.05	<0.2	193	<0.04	0.74	E0.42	<0.5	<0.5
33	08/30/2005	10:00	0.6	<0.2	512	<0.04	1.0	E0.6	<0.5	<0.5
	09/21/2006	10:30	0.48	<0.2	462	<0.04	0.66	0.62	<0.5	<0.5

Map site no.	Date	Time	2, 6-Dimethylnaphthalene, dissolved (µg/L) (62055)	2-Methylnaphthalene, dissolved (µg/L) (62056)	3-β-Coprostanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumylphenol, dissolved (µg/L) (62060)	4-*n*-Octylphenol, dissolved (µg/L) (62061)	4-Nonylphenol, dissolved (µg/L) (62085)
24	09/01/2005	13:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/22/2006	09:45	<0.5	<0.5	<2	<1	<5	<1	<1	<5
25	08/29/2005	16:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/19/2006	15:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5
26	08/31/2005	14:45	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/20/2006	09:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5
27	08/29/2005	11:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/19/2006	10:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
28	08/29/2005	13:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/19/2006	11:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
29	08/31/2005	10:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/20/2006	11:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5
30	09/01/2005	09:45	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/20/2006	16:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
31	08/31/2005	11:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/20/2006	14:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
32	08/30/2005	15:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/21/2006	13:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
33	08/30/2005	10:00	<0.5	<0.5	<2	<1	<5	<1	<1	<5
	09/21/2006	10:30	<0.5	<0.5	<2	<1	<5	<1	<1	<5

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	4-Nonylphenol diethoxylates dissolved (µg/L) (62083)	4-Octylphenol diethoxylates dissolved (µg/L) (61705)	4-Octylphenol monoethoxylates dissolved (µg/L) (61706)	4-*tert*-Octylphenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzotriazole, dissolved (µg/L) (62063)	9,10-Anthraquinone, dissolved (µg/L) (62066)	Acetophenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)
24	09/01/2005	13:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/22/2006	09:45	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
25	08/29/2005	16:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/19/2006	15:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
26	08/31/2005	14:45	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/20/2006	09:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
27	08/29/2005	11:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/19/2006	10:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
28	08/29/2005	13:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/19/2006	11:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
29	08/31/2005	10:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/20/2006	11:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
30	09/01/2005	09:45	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/20/2006	16:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
31	08/31/2005	11:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/20/2006	14:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
32	08/30/2005	15:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/21/2006	13:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
33	08/30/2005	10:00	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5
	09/21/2006	10:30	<5	<1	<1	<1	<2	<0.5	<0.5	<0.5

Map site no.	Date	Time	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzophenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigmastanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)
24	09/01/2005	13:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/22/2006	09:45	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
25	08/29/2005	16:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/19/2006	15:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
26	08/31/2005	14:45	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/20/2006	09:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
27	08/29/2005	11:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/19/2006	10:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
28	08/29/2005	13:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/19/2006	11:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
29	08/31/2005	10:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/20/2006	11:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
30	09/01/2005	09:45	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/20/2006	16:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
31	08/31/2005	11:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/20/2006	14:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
32	08/30/2005	15:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/21/2006	13:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
33	08/30/2005	10:00	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5
	09/21/2006	10:30	<0.5	<0.5	<0.5	<2	<2	<0.5	<0.5	<0.5

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)
24	09/01/2005	13:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/22/2006	09:45	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
25	08/29/2005	16:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/19/2006	15:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
26	08/31/2005	14:45	<1	<0.5	<0.5	<2	<1	E0.1	<0.5	<0.5
	09/20/2006	09:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
27	08/29/2005	11:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/19/2006	10:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
28	08/29/2005	13:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/19/2006	11:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
29	08/31/2005	10:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/20/2006	11:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
30	09/01/2005	09:45	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/20/2006	16:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
31	08/31/2005	11:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/20/2006	14:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
32	08/30/2005	15:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/21/2006	13:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
33	08/30/2005	10:00	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5
	09/21/2006	10:30	<1	<0.5	<0.5	<2	<1	<0.5	<0.5	<0.5

Map site no.	Date	Time	Fluor-anthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)	Indole, dissolved (µg/L) (62076)	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Iso-propyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)
24	09/01/2005	13:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/22/2006	09:45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
25	08/29/2005	16:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/19/2006	15:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
26	08/31/2005	14:45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/20/2006	09:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
27	08/29/2005	11:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/19/2006	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
28	08/29/2005	13:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/19/2006	11:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
29	08/31/2005	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
30	09/01/2005	09:45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/20/2006	16:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
31	08/31/2005	11:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/20/2006	14:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
32	08/30/2005	15:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	13:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
33	08/30/2005	10:00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/21/2006	10:30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)	Naphthalene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenanthrene, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)	Pyrene, dissolved (µg/L) (34470)
24	09/01/2005	13:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/22/2006	09:45	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
25	08/29/2005	16:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/19/2006	15:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
26	08/31/2005	14:45	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/20/2006	09:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
27	08/29/2005	11:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/19/2006	10:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
28	08/29/2005	13:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/19/2006	11:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
29	08/31/2005	10:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/20/2006	11:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
30	09/01/2005	09:45	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/20/2006	16:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
31	08/31/2005	11:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/20/2006	14:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
32	08/30/2005	15:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/21/2006	13:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
33	08/30/2005	10:00	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	09/21/2006	10:30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5

Map site no.	Date	Time	Tetrachloroethene, dissolved (µg/L) (34476)	Tri-bromomethane, dissolved (µg/L) (34288)	Tri-butyl phosphate, dissolved (µg/L) (62089)	Triclosan, dissolved (µg/L) (62090)	Tri-ethyl citrate, dissolved (µg/L) (62091)	Tri-phenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chloroethyl) phosphate, dissolved (µg/L) (62087)
24	09/01/2005	13:30	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	M
	09/22/2006	09:45	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
25	08/29/2005	16:00	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
	09/19/2006	15:30	<0.5	<0.5	<0.5	<1	<0.5	E0.2	<0.5	<0.5
26	08/31/2005	14:45	<0.5	<0.5	<0.5	<1	<0.5	E0.5	<0.5	E0.1
	09/20/2006	09:30	<0.5	<0.5	<0.5	<1	<0.5	E0.4	<0.5	<0.5
27	08/29/2005	11:00	<0.5	<0.5	<0.5	<1	<0.5	E0.4	<0.5	<0.5
	09/19/2006	10:00	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
28	08/29/2005	13:30	<0.5	<0.5	<0.5	<1	<0.5	E0.5	<0.5	<0.5
	09/19/2006	11:00	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
29	08/31/2005	10:00	<0.5	<0.5	<0.5	<1	<0.5	E0.4	<0.5	<0.5
	09/20/2006	11:30	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
30	09/01/2005	09:45	<0.5	<0.5	<0.5	<1	<0.5	E0.4	<0.5	<0.5
	09/20/2006	16:00	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
31	08/31/2005	11:30	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	E0.2
	09/20/2006	14:00	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	E0.1
32	08/30/2005	15:00	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
	09/21/2006	13:00	<0.5	<0.5	<0.5	<1	<0.5	E0.2	<0.5	<0.5
33	08/30/2005	10:00	<0.5	<0.5	<0.5	<1	<0.5	E0.3	<0.5	<0.5
	09/21/2006	10:30	<0.5	<0.5	<0.5	<1	<0.5	E0.2	<0.5	<0.5

Table 9. Water-quality data collected from 10 groundwater sites in the Lower Russian River Basin, Sonoma County, California, 2005–2006.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; col/100 mL, colonies per 100 milliliters; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Tris(dichloroisopropy) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)
24	09/01/2005	13:30	<0.5	–12.12	–48.80	–7.13
	09/22/2006	09:45	<0.5	–13.04	–47.20	–6.92
25	08/29/2005	16:00	<0.5	–19.03	–38.50	–6.33
	09/19/2006	15:30	<0.5	–18.73	–34.90	–6.08
26	08/31/2005	14:45	<0.5	–12.64	–48.50	–7.18
	09/20/2006	09:30	<0.5	–13.40	–45.80	–6.87
27	08/29/2005	11:00	<0.5	–14.76	–44.70	–6.92
	09/19/2006	10:00	<0.5	–14.26	–43.60	–6.76
28	08/29/2005	13:30	<0.5	–14.06	–47.20	–6.99
	09/19/2006	11:00	<0.5	–13.29	–45.50	–6.85
29	08/31/2005	10:00	<0.5	–15.56	–44.90	–6.98
	09/20/2006	11:30	<0.5	–13.39	–45.20	–6.93
30	09/01/2005	09:45	<0.5	–13.95	–47.20	–7.16
	09/20/2006	16:00	<0.5	–13.36	–46.40	–6.88
31	08/31/2005	11:30	<0.5	–19.29	–38.70	–6.27
	09/20/2006	14:00	<0.5	–19.17	–38.60	–6.27
32	08/30/2005	15:00	<0.5	–17.56	–37.50	–5.58
	09/21/2006	13:00	<0.5	–16.80	–41.50	–6.22
33	08/30/2005	10:00	<0.5	–18.43	–37.70	–6.03
	09/21/2006	10:30	<0.5	–18.12	–36.50	–5.93

Table 10. Water-quality data collected from three monitoring wells in the Lower Russian River Basin, Sonoma County, California, 2008.

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury. ft bgs, feet below ground surface; pmc, percent modern carbon; col/100 mL, colonies per 100 milliliters; pCi/L, picocuries per liter; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Well depth (ft bgs)	Station name	Local name	Date	Time	Dissolved oxygen, (mg/L as O_2) (00300)	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)	Temperature, water (˚C) (00010)	Calcium, dissolved (mg/L as Ca) (00915)
34	383210122513001	210	8N/9W-16R02	MW-1a	07/16/2008	12:30	0.4	8.4	272	19.3	18.1
35	383210122513002	285	8N/9W-16R03	MW-1b	07/16/2008	15:30	0.3	7.8	432	18.8	31.7
36	383210122513003	67	8N/9W-16R04	HA-OW-5	07/16/2008	16:30	0.6	7.0	334	16.2	30.2

Map site no.	Date	Time	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)
34	07/16/2008	12:30	4.87	2.16	33.1	125	–	15.7	0.34	28.8
35	07/16/2008	15:30	10.2	2.06	38.4	132	–	57.3	0.52	45.4
36	07/16/2008	16:30	20.8	1.16	7.54	153	–	6.07	<0.12	23.9

Map site no.	Date	Time	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180˚C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, NO_2 + NO_3, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)
34	07/16/2008	12:30	<0.18	179	0.155	0.15	–	E0.02	<0.002	0.08
35	07/16/2008	15:30	<0.18	307	0.123	E0.13	–	<0.04	<0.002	0.05
36	07/16/2008	16:30	20.8	221	E0.013	<0.14	–	0.59	<0.002	<0.04

Map site no.	Date	Time	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)	*Clostridium perfringens*, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)	*Escherichia coli*, modified mTEC MF (col/100 mL) (90902)	Total coliform, mEndo MF (col/100 mL) (31501)
34	07/16/2008	12:30	0.091	–	0.6	1.6	E3	<2	<2	<2
35	07/16/2008	15:30	0.067	–	E0.2	<0.4	<1	<1	<1	<1
36	07/16/2008	16:30	0.026	–	E0.3	1.7	<1	<1	<1	<1

Map site no.	Date	Time	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as An) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)
34	07/16/2008	12:30	6.9	<0.14	0.89	35	<0.01	1,450	<0.04	0.74
35	07/16/2008	15:30	1.8	<0.14	0.15	41	0.02	7,310	<0.04	<0.12
36	07/16/2008	16:30	<1.6	<0.14	0.31	140	<0.01	145	<0.04	0.64

Table 10. Water-quality data collected from three monitoring wells in the Lower Russian River Basin, Sonoma County, California, 2008.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury. ft bgs, feet below ground surface; pmc, percent modern carbon; col/100 mL, colonies per 100 milliliters; pCi/L, picocuries per liter; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)
34	07/16/2008	12:30	0.09	<1.0	42	<0.08	7.3	13.9	<0.010	1.9
35	07/16/2008	15:30	0.03	<1.0	101	<0.08	19.3	78.1	<0.010	E0.1
36	07/16/2008	16:30	0.06	<1.0	<8	<0.08	3.3	0.2	<0.010	0.2

Map site no.	Date	Time	Nickel, dissolved (µg/L as Ni) (01065)	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)	1,4-Dichlorobenzene, dissolved (µg/L) (34572)
34	07/16/2008	12:30	0.62	<0.04	<0.1	479	<0.04	0.06	<1.8	<0.1
35	07/16/2008	15:30	0.27	<0.04	<0.1	778	<0.04	0.05	<1.8	<0.1
36	07/16/2008	16:30	1.1	E0.03	<0.1	284	<0.04	1.1	<1.8	<0.1

Map site no.	Date	Time	1-Methylnaphthalene, dissolved (µg/L) (62054)	2, 6-Dimethylnaphthalene, dissolved (µg/L) (62055)	2-methylnaphthalene, dissolved (µg/L) (62056)	3-β-Coprostanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumylphenol, dissolved (µg/L) (62060)	4-*n*-Octylphenol, dissolved (µg/L) (62061)
34	07/16/2008	12:30	<0.1	<0.1	<0.1	<2	<0.08	<0.6	<0.1	<0.16
35	07/16/2008	15:30	<0.1	<0.1	<0.1	<2	<0.08	<0.6	<0.1	<0.16
36	07/16/2008	16:30	<0.1	<0.1	<0.1	<2	<0.08	<0.6	<0.1	<0.16

Map site no.	Date	Time	4-Nonylphenol, dissolved (µg/L) (62085)	4-Nonylphenol diethoxylates dissolved (µg/L) (62083)	4-Octylphenol diethoxylates dissolved (µg/L) (61705)	4-Octylphenol monoethoxylates dissolved (µg/L) (61706)	4-*tert*-Octylphenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzotriazole, dissolved (µg/L) (62063)	9,10-Anthraquinone, dissolved (µg/L) (62066)	Acetophenone, dissolved (µg/L) (62064)
34	07/16/2008	12:30	<1	<5	<1	<1	<1	<0.08	<0.2	2.1
35	07/16/2008	15:30	<1	<5	<1	<1	<1	<0.08	<0.2	<0.5
36	07/16/2008	16:30	<1	<5	<1	<1	<1	<0.08	<0.2	E0.7

Map site no.	Date	Time	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzophenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigmastanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)	Caffeine, dissolved (µg/L) (50305)
34	07/16/2008	12:30	<0.5	<0.1	<0.1	0.1	<2	<2	<0.4	<0.1
35	07/16/2008	15:30	<0.5	<0.1	<0.1	<0.1	<2	<2	<0.4	<0.1
36	07/16/2008	16:30	<0.5	<0.1	<0.1	<0.1	<2	<2	<0.4	<0.1

Table 10. Water-quality data collected from three monitoring wells in the Lower Russian River Basin, Sonoma County, California, 2008.—Continued

[The number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury. ft bgs, feet below ground surface; pmc, percent modern carbon; col/100 mL, colonies per 100 milliliters; pCi/L, picocuries per liter; mm, millimeter; µS/cm, microsiemens per centimeter; ˚C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	Date	Time	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)
34	07/16/2008	12:30	<0.1	<1	<0.1	<0.1	<2	<0.4	<0.1	<0.1
35	07/16/2008	15:30	<0.1	<1	<0.1	<0.1	<2	<0.4	<0.1	<0.1
36	07/16/2008	16:30	<0.1	<1	<0.1	<0.1	<2	<0.4	<0.1	<0.1

Map site no.	Date	Time	*d*-Limonene, dissolved (µg/L) (62073)	Fluor-anthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)	Indole, dissolved (µg/L) (62076)	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Isopropyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)
34	07/16/2008	12:30	<0.04	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.2
35	07/16/2008	15:30	<0.04	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.2
36	07/16/2008	16:30	<0.04	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.2

Map site no.	Date	Time	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)	Naphth-alene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenanthrene, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)
34	07/16/2008	12:30	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
35	07/16/2008	15:30	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2
36	07/16/2008	16:30	<0.2	<0.1	<0.1	<0.1	<0.1	<0.18	<0.1	<0.2

Map site no.	Date	Time	Pyrene, dissolved (µg/L) (34470)	Tetra-chloro-ethene, dissolved (µg/L) (34476)	Tri-bromo-methane, dissolved (µg/L) (34288)	Tri-butyl phosphate, dissolved (µg/L) (62089)	Triclosan, dissolved (µg/L) (62090)	Tri-ethyl citrate, dissolved (µg/L) (62091)	Tri-phenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxyethyl) phosphate, dissolved (µg/L) (62093)
34	07/16/2008	12:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4
35	07/16/2008	15:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4
36	07/16/2008	16:30	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.4

Map site no.	Date	Time	Tris(2-chloroethyl) phosphate, dissolved (µg/L) (62087)	Tris(di-chloroisopropy) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Carbon-14 (pmc) (49933)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)	Tritium, 2-sigma (pCi/L) (75985)	Tritium, (pCi/L) (07000)
34	07/16/2008	12:30	0.2	<0.1	– 12.31	27.02	– 38.18	– 6.25	1.0	0.3
35	07/16/2008	15:30	<0.1	<0.1	17.62	44.56	– 40.11	– 6.36	1.0	– 0.3
36	07/16/2008	16:30	<0.1	<0.1	– 18.58	104.0	– 38.44	– 5.71	1.0	5.8

Table 11. Water-quality data collected from miscellaneous sites in the Lower Russian River Basin, Sonoma County, California, 2006.

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; °C, degrees Celsius; col/100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Dissolved oxygen, (mg/L as O_2) (00300)	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)	Temperature, water (°C) (00010)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as aCO_3) (90410)
–	–	Collector well	10/05/2006	09:00	–	7.7	236	–	21.7	13.2	1.06	7.47	108
–	–	Treatment plant	07/19/2006	13:30	–	7.8	664	–	30.3	26.9	13.4	51.0	116

Map site no.	USGS station no.	Station name	Date	Time	Bromide, dissolved (mg/L as Br) (71870)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia + organic, dissolved (mg/L as N) (00623)	Nitrogen, ammonia + organic, total (mg/L as N) (00625)
–	–	Collector well	10/05/2006	09:00	<0.02	4.96	E0.08	17.2	11.1	156	<0.020	0.17	<0.10
–	–	Treatment plant	07/19/2006	13:30	0.03	49.4	0.23	26.9	26.1	441	0.021	1.2	1.2

Map site no.	USGS station no.	Station name	Date	Time	Nitrogen, $NO_2 + NO_3$, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)	Carbon, organic, total (mg/L as C) (00680)	*Clostridium perfringens*, mCP MF (col/100 mL) (90915)	Enterococci, mEI MF (col/100 mL) (90909)
–	–	Collector well	10/05/2006	09:00	0.13	<0.002	0.017	0.018	0.014	–	0.6	<1	<1
–	–	Treatment plantt	07/19/2006	13:30	29.7	0.036	4.76	5.36	5.14	5.4	7	E1,500	E210

Map site no.	USGS station no.	Station name	Date	Time	*Escherichia coli*, modified mTEC MF (col/100 mL) (90902)	Total coliform, mEndo MF (col/100 mL) (31501)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as Sb) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)	Cadmium, dissolved (µg/L as Cd) (01025)
–	–	Collector well	10/05/2006	09:00	<1	<1	E1.1	0.06	0.29	88	<0.06	206	<0.04
–	–	Treatment plant	07/19/2006	13:30	E900	E32000	7.2	0.21	0.39	46	<0.06	465	E0.03

Table 11. Water-quality data collected from miscellaneous sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; °C, degrees Celsius; col/100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)
–	–	Collector well	10/05/2006	09:00	0.35	E0.02	11.7	<6	0.71	2.4	<0.2	<0.01	0.4	0.83
–	–	Treatment plant	07/19/2006	13:30	0.32	0.12	17.4	20	0.08	4.6	1.1	<0.01	3.3	6.4

Map site no.	USGS station no.	Station name	Date	Time	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)	1,4-Dichloro-benzene, dissolved (µg/L) (34572)	1-Methyl-naphthalene, dissolved (µg/L) (62054)	2, 6-Dimethyl-naphthalene, dissolved (µg/L) (62055)	2-Methyl-naphthalene, dissolved (µg/L) (62056)
–	–	Collector well	10/05/2006	09:00	E0.06	E0.1	204	<0.04	1.1	1.8	<0.1	<0.1	<0.2	<0.1
–	–	Treatment plant	07/19/2006	13:30	0.16	<0.2	191	<0.04	0.40	52.2	<0.1	<0.5	<0.5	<0.5

Map site no.	USGS station no.	Station name	Date	Time	3-β-Coprostanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl-4-hydroxy-anisole, dissolved (µg/L) (62059)	b4-Cumyl-phenol, dissolved (µg/L) (62060)	4-n-Octyl-phenol, dissolved (µg/L) (62061)	4-Nonyl-phenol, dissolved (µg/L) (62085)	4-Nonyl-phenol di-ethoxylates dissolved (µg/L) (62083)	4-Octyl-phenol diethoxylates dissolved (µg/L) (61705)	4-Octyl-phenol mono-othoxylates dissolved (µg/L) (61706)	4-*tert*-Octyl-phenol, dissolved (µg/L) (62062)
–	–	Collector well	10/05/2006	09:00	<2	<0.08	<0.6	<0.14	<0.16	<2	<5	<1	<1	<0.1
–	–	Treatment plant	07/19/2006	13:30	<2	<1	<5	<1	<1	<5	<5	<1	<1	<1

Map site no.	USGS station no.	Station name	Date	Time	5-Methyl-1H-benzo-triazole, dissolved (µg/L) (62063)	9,10-Anthra-quinone, dissolved (µg/L) (62066)	Aceto-phenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)	Anthracene, dissolved (µg/L) (034221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzo-phenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigma-stanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)
–	–	Collector well	10/05/2006	09:00	<2	<0.5	<0.1	<0.5	<0.1	<0.1	<0.2	<2	<2	<0.4
–	–	Treatment plant	07/19/2006	13:30	<2	<0.5	<0.5	E0.1	<0.5	<0.5	<0.5	<2	<2	<0.5

Table 11. Water-quality data collected from miscellaneous sites in the Lower Russian River Basin, Sonoma County, California, 2006.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; $CaCO_3$, calcium carbonate; Hg, mercury. µS/cm, microsiemens per centimeter; °C, degrees Celsius; col/100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Caffeine, dissolved (µg/L) (50305)	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)
–	–	Collector well	10/05/2006	09:00	<0.2	<0.5	<0.060	<0.1	<0.005	<1	<0.028	<0.2	<0.005	<0.1
–	–	Treatment plant	07/19/2006	13:30	<0.5	<0.5	<0.041	<0.5	<0.005	<2	<0.028	E0.1	<0.017	<0.5

Map site no.	USGS station no.	Station name	Date	Time	Fluoranthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)	Indole, dissolved (µg/L) (62076)	Isoborneol, dissolved (µg/L) (62077)	Isophorone, dissolved (µg/L) (34409)	Isopropyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)
–	–	Collector well	10/05/2006	09:00	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.4	<0.2	<0.2	<0.2
–	–	Treatment plant	07/19/2006	13:30	<0.5	0.7	<0.5	–	<0.5	<0.5	<0.5	–	<0.5	<0.5

Map site no.	USGS station no.	Station name	Date	Time	Metolachlor, dissolved (µg/L) (39415)	Naphthalene, dissolved (µg/L) (34443)	*p*-Cresol, dissolved (µg/L) (62084)	Phenanthrene, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)	Pyrene, dissolved (µg/L) (34470)	Tetrachloro-ethene, dissolved (µg/L) (34476)	Tribromo-methane, dissolved (µg/L) (34288)	Tributyl phosphate, dissolved (µg/L) (62089)
–	–	Collector well	10/05/2006	09:00	<0.01	<0.1	<0.18	<0.1	<0.01	<0.1	<0.2	E3.6	<0.2
–	–	Treatment plant	07/19/2006	13:30	<0.006	<0.5	<1.0	<0.5	<0.01	<0.5	<0.5	<0.5	<0.2

Map site no.	USGS station no.	Station name	Date	Time	Triclosan, dissolved (µg/L) (62090)	Triethyl citrate, dissolved (µg/L) (62091)	Triphenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxy-ethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chloro-ethyl) phosphate, dissolved (µg/L) (62087)	Tris(dichloro-isopropy) phosphate, dissolved (µg/L) (62088)	Carbon-13/12 (per mil) (82081)	Hydrogen-2/1 (per mil) (82082)	Oxygen-18/16 (per mil) (82085)
–	–	Collector well	10/05/2006	09:00	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	–13.75	–45.7	–6.92
–	–	Treatment plant	07/19/2006	13:30	<0.2	E0.1	<0.2	<0.5	E0.3	E0.3	–	–	–

Table 12. Enterococci concentrations and results of assays for the enterococcal surface protein (*esp*) human-associated marker in *Enterococcus faecium* for water samples collected from the Russian River and tributary sites in the Lower Russian River Basin, Sonoma County, California.

[Sites are listed in downstream order. Conc DNA, concentration of DNA; col/100 mL, colonies per 100 milliliters; mL, milliliters; ng/µL, nanograms per microliter; neg, negative; pos, positive; ~, actual value approximately equal to value shown; <, actual value less than value shown; NC, not collected; NT, not tested; –, no data]

Site name	Set 1 (June)			Set 2 (July)			SET 3 (August)		
	Colonies (col/100 mL)	Conc DNA (ng/µL)	*esp* result	Colonies (col/100 mL)	Conc DNA (ng/µL)	*esp* result	Colonies (col/100 mL)	Conc DNA (ng/µL)	*esp* result
Mark West Creek	71	34.5	neg	~275	40.2	pos	378	5.42	neg
Russian River at Steelhead Beach	~36	28.1	neg	~300	23.8	neg	37	18.4	neg
Green Valley Creek	~100	23.6	neg	~175	22.3	pos	NC	–	–
Russian River at Guerneville	~16	29.1	neg	91	9.19	neg	35	18.9	neg
Pocket Canyon Creek	~ 360	17.8	neg	~250	5.46	neg	NC	–	–
Russian River at Johnson Beach	18	21.8	neg	15	8.10	neg	34	20.5	neg
Fife Creek	~600	18.9	pos	NC	–	–	NC	–	–
Hulbert Creek	~300	11.0	neg	4	NT	–	7	0.55	neg
Russian River at Vacation Beach	15	22.9	neg	37	8.24	neg	<1	NT	–
Sewage treatment plant	NC	–	–	~200	16.6	pos	NC	–	–
Dutch Bill Creek	20	29.4	neg	29	14.3	neg	12	0.81	neg
Russian River at Monte Rio	13	28.6	neg	30	15.5	neg	23	3.49	neg
Austin Creek	8	27.8	neg	62	20.6	neg	80	4.21	neg
Russian River at Casini Ranch	2	NT	–	13	NT	–	3	-0.13	neg

Table 13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010.

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	Acetaminophen, (µg/L) (62000)	Caffeine, (µg/L) (50305)	Carbamazepine, (µg/L) (62793)	Codeine, (µg/L) (62003)	Cotinine, (µg/L) (62005)	Dehydronifedipine, (µg/L) (62004)
1	11462000	East Fork Russian River near Ukiah	06/04/2007	11:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/20/2007	13:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/15/2007	11:30	<0.080	<0.1	<0.040	<0.040	<0.028	<0.060
2	11462500	Russian River near Hopland	06/04/2007	15:00	<0.024	<0.2	E0.014	<0.022	<0.028	<0.022
			08/20/2007	15:30	<0.024	<0.2	E0.003	<0.022	<0.028	<0.022
			08/23/2010	11:30	<0.120	<0.1	E0.003	<0.046	<0.038	<0.080
3	11463000	Russian River near Cloverdale	06/05/2007	10:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/21/2007	11:00	<0.024	<0.2	E0.001	<0.022	<0.028	<0.022
			10/16/2007	12:00	<0.080	<0.1	E0.004	<0.040	<0.028	<0.060
4	11463980	Russian River at Digger Bend near Healdsburg	06/05/2007	14:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/16/2007	15:00	<0.080	<0.1	<0.040	<0.040	<0.028	<0.060
			06/15/2010	09:30	<0.120	<0.1	<0.060	<0.046	<0.038	<0.080
			08/24/2010	09:00	<0.120	<0.1	<0.060	<0.046	<0.038	<0.080
7	11465400	Russian River at Wohler Bridge	06/05/2007	16:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/22/2007	09:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/17/2007	12:00	<0.080	<0.1	<0.040	<0.040	<0.028	<0.060
8	382959122535601	Russian River at Steelhead Beach	06/06/2007	10:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/22/2007	11:00	<0.024	<0.2	E0.003	<0.022	<0.028	<0.022
			10/17/2007	09:30	<0.080	E0.1	<0.040	<0.040	<0.028	<0.060
9	11467000	Russian River near Guerneville	06/06/2007	14:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/22/2007	15:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/17/2007	13:30	<0.080	E0.1	<0.040	<0.040	E0.008	<0.060
			06/17/2010	10:00	<0.120	<0.1	<0.060	<0.046	<0.038	<0.080
			08/26/2010	09:00	<0.120	<0.1	<0.060	<0.046	<0.038	<0.080

Table 13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	Acetaminophen, (µg/L) (62000)	Caffeine, (µg/L) (50305)	Carbamazepine, (µg/L) (62793)	Codeine, (µg/L) (62003)	Cotinine, (µg/L) (62005)	Dehydronifedipine, (µg/L) (62004)
11	11467002	Russian River at Johnson's Beach	06/07/2007	13:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/23/2007	12:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/18/2007	12:00	<0.080	E0.1	<0.040	<0.040	<0.028	<0.060
13	382757123003801	Russian River at Monte Rio	06/07/2007	11:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/23/2007	11:00	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/18/2007	10:00	<0.080	E0.1	<0.040	<0.040	<0.028	<0.060
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.120	<0.1	<0.060	<0.046	<0.038	<0.080
			08/27/2010	09:30	E0.004	<0.1	<0.060	<0.046	<0.038	<0.080
21	11465350	Dry Creek near month near Healdsburg	08/21/2007	16:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			10/18/2007	15:30	<0.080	<0.1	<0.040	<0.040	<0.028	<0.060
22	11466800	Mark West Creek near Mirabel Heights	06/06/2007	12:30	<0.024	<0.2	<0.018	<0.022	<0.028	<0.022
			08/22/2007	13:30	<0.024	<0.2	<0.018	<0.022	E0.005	<0.022
			10/17/2007	15:30	<0.080	0.4	<0.040	<0.040	E0.027	<0.060

Table 13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	Diltiazem, (µg/L) (62008)	Diphenhydramine, (µg/L) (62796)	*p*-Xanthine, (µg/L) (62030)	Salbutamol, (µg/L) (62020)	Sulfamethoxazole, (µg/L) (62021)
1	11462000	East Fork Russian River near Ukiah	06/04/2007	11:30	<0.018	<0.023	<0.021	<0.014	<0.024
			08/20/2007	13:00	<0.018	<0.023	<0.021	<0.014	<0.024
			10/15/2007	11:30	<0.040	<0.023	<0.100	<0.040	<0.100
2	11462500	Russian River near Hopland	06/04/2007	15:00	<0.018	<0.023	<0.021	<0.014	<0.024
			08/20/2007	15:30	<0.018	<0.023	<0.021	<0.014	<0.024
			08/23/2010	11:30	<0.060	<0.036	<0.100	<0.080	<0.160
3	11463000	Russian River near Cloverdale	06/05/2007	10:30	<0.018	<0.023	<0.021	<0.014	<0.024
			08/21/2007	11:00	<0.018	<0.023	<0.021	<0.014	<0.024
			10/16/2007	12:00	<0.040	<0.023	<0.100	<0.040	<0.100
4	11463980	Russian River at Digger Bend near Healdsburg	06/05/2007	14:00	<0.018	<0.023	<0.021	<0.014	<0.024
			10/16/2007	15:00	<0.040	<0.023	<0.100	<0.040	<0.100
			06/15/2010	09:30	<0.060	<0.036	<0.100	<0.080	<0.160
			08/24/2010	09:00	<0.060	<0.036	<0.100	<0.080	<0.160
7	11465400	Russian River at Wohler Bridge	06/05/2007	16:00	<0.018	<0.023	<0.021	<0.014	<0.024
			08/22/2007	09:30	<0.018	<0.023	<0.021	<0.014	<0.024
			10/17/2007	12:00	<0.040	<0.023	<0.100	<0.040	<0.100
8	382959122535601	Russian River at Steelhead Beach	06/06/2007	10:00	<0.018	<0.023	<0.021	<0.014	<0.024
			08/22/2007	11:00	<0.018	<0.023	<0.021	<0.014	<0.024
			10/17/2007	09:30	<0.040	<0.023	<0.100	<0.040	<0.100
9	11467000	Russian River near Guerneville	06/06/2007	14:30	<0.018	<0.023	<0.021	<0.014	<0.024
			08/22/2007	15:30	<0.018	<0.023	<0.021	<0.014	<0.024
			10/17/2007	13:30	<0.040	<0.023	<0.100	<0.040	<0.100
			06/17/2010	10:00	<0.060	<0.036	<0.100	<0.080	<0.160
			08/26/2010	09:00	<0.060	<0.036	<0.100	<0.080	<0.160

Table 13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	Diltiazem, (µg/L) (62008)	Diphenhydramine, (µg/L) (62796)	*p*-Xanthine, (µg/L) (62030)	Salbutamol, (µg/L) (62020)	Sulfamethoxazole, (µg/L) (62021)
11	11467002	Russian River at Johnson's Beach	06/07/2007	13:00	<0.018	<0.023	<0.021	<0.014	<0.024
			08/23/2007	12:30	<0.018	<0.023	<0.021	<0.014	<0.024
			10/18/2007	12:00	<0.040	<0.023	<0.100	<0.040	<0.100
			10/14/2010	12:30	<0.060	<0.036	<0.100	<0.080	<0.160
13	382757123003801	Russian River at Monte Rio	06/07/2007	11:00	<0.018	<0.023	<0.021	<0.014	<0.024
			08/23/2007	11:00	<0.018	<0.023	<0.021	<0.014	<0.024
			10/18/2007	10:00	<0.040	<0.023	<0.100	<0.040	<0.100
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.060	<0.036	<0.100	<0.080	<0.160
			08/27/2010	09:30	<0.060	<0.036	<0.100	<0.080	<0.160
21	11465350	Dry Creek near month near Healdsburg	08/21/2007	16:30	<0.018	<0.023	<0.021	<0.014	<0.024
			10/18/2007	15:30	<0.040	<0.023	<0.100	<0.040	<0.100
22	11466800	Mark West Creek near Mirabel Heights	06/06/2007	12:30	<0.018	<0.023	<0.021	<0.014	<0.024
			08/22/2007	13:30	<0.018	<0.023	<0.021	<0.014	<0.024
			10/17/2007	15:30	<0.040	<0.023	<0.100	<0.040	<0.100

Table 13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	Thiabendazole, (µg/L) (62801)	Trimethoprim, (µg/L) (62023)	Warfarin, (µg/L) (62024)
1	11462000	East Fork Russian River near Ukiah	06/04/2007	11:30	<0.025	<0.020	<0.019
			08/20/2007	13:00	<0.025	<0.020	<0.019
			10/15/2007	11:30	<0.040	<0.020	<0.060
2	11462500	Russian River near Hopland	06/04/2007	15:00	<0.025	<0.020	<0.019
			08/20/2007	15:30	<0.025	<0.020	<0.019
			08/23/2010	11:30	<0.060	<0.034	<0.080
3	11463000	Russian River near Cloverdale	06/05/2007	10:30	<0.025	<0.020	<0.019
			08/21/2007	11:00	<0.025	<0.020	<0.019
			10/16/2007	12:00	<0.040	<0.020	<0.060
4	11463980	Russian River at Digger Bend near Healdsburg	06/05/2007	14:00	<0.025	<0.020	<0.019
			10/16/2007	15:00	<0.040	<0.020	<0.060
			06/15/2010	09:30	<0.060	<0.034	<0.080
			08/24/2010	09:00	<0.060	<0.034	<0.080
7	11465400	Russian River at Wohler Bridge	06/05/2007	16:00	<0.025	<0.020	<0.019
			08/22/2007	09:30	<0.025	<0.020	<0.019
			10/17/2007	12:00	<0.040	<0.020	<0.060
8	382959122535601	Russian River at Steelhead Beach	06/06/2007	10:00	<0.025	<0.020	<0.019
			08/22/2007	11:00	<0.025	<0.020	<0.019
			10/17/2007	09:30	<0.040	<0.020	<0.060
9	11467000	Russian River near Guerneville	06/06/2007	14:30	<0.025	<0.020	<0.019
			08/22/2007	15:30	<0.025	<0.020	<0.019
			10/17/2007	13:30	<0.040	<0.020	<0.060
			06/17/2010	10:00	<0.060	<0.034	<0.080

Table 13. Concentration of human-use pharmaceuticals for water samples collected in the Russian River Basin, Mendocino and Sonoma Counties, California, 2007–2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	Thiabendazole, (µg/L) (62801)	Trimethoprim, (µg/L) (62023)	Warfarin, (µg/L) (62024)
			08/26/2010	09:00	<0.060	<0.034	<0.080
11	11467002	Russian River at Johnson's Beach	06/07/2007	13:00	<0.025	<0.020	<0.019
			08/23/2007	12:30	<0.025	<0.020	<0.019
			10/18/2007	12:00	<0.040	<0.020	<0.060
			10/14/2010	12:30	<0.060	<0.034	<0.080
13	382757123003801	Russian River at Monte Rio	06/07/2007	11:00	<0.025	<0.020	<0.019
			08/23/2007	11:00	<0.025	<0.020	<0.019
			10/18/2007	10:00	<0.040	<0.020	<0.060
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.060	<0.034	<0.080
			08/27/2010	09:30	<0.060	<0.034	<0.080
21	11465350	Dry Creek near month near Healdsburg	08/21/2007	16:30	<0.025	<0.020	<0.019
			10/18/2007	15:30	<0.040	<0.020	<0.060
22	11466800	Mark West Creek near Mirabel Heights	06/06/2007	12:30	<0.025	<0.020	<0.019
			08/22/2007	13:30	<0.025	<0.020	<0.019
			10/17/2007	15:30	<0.040	<0.020	<0.060

Table 14. Concentration of organic wastewater compounds for bed sediment samples collected at three Russian River sites and one tributary site in the Lower Russian River Basin, Sonoma County, California, 2005.

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS) to uniquely identify a specific constituent or property. **Abbreviations**: no., number; µg/kg, micrograms per kilogram; <, actual value less than value shown; E, estimated value]

Map site no.	USGS station no.	Station name	Date	Time	1-Methyl-naphthalene, solids (µg/kg) (63165)	2,6-Dimethyl-naphthalene, solids (µg/kg) (63167)	2-Methyl-naphthalene, solids (µg/kg) (63168)	3-β-Coprostanol, solids (µg/kg) (63170)	3-Methyl-1H-indole, solids (µg/kg) (63171)	Acetophenone, solids (µg/kg) (63178)	Benzo-[*a*]-pyrene, solids (µg/kg) (63183)	Benzophenone, solids (µg/kg) (63184)	β-Sitosterol, solids (µg/kg) (63185)	β-Stigmastanol, solids (µg/kg) (63186)
Russian River sites														
7	11465400	Russian River at Wohler Bridge	08/31/2005	16:00	E17	E21	31	<100	E14	<25	E10	<25	1,300	<250
11	11467002	Russian River at Johnson's Beach	09/13/2005	10:30	56	98	86	<100	60	<25	37	89	3,600	580
13	382757123003801	Russian River at Monte Rio	09/13/2005	13:30	120	450	160	<100	190	E140	E20	<25	16,000	2,400
22	11466800	Mark West Creek near Mirabel Heights	09/14/2005	14:00	32	130	34	560	150	<25	32	<25	12,000	2,400

Map site no.	USGS station no.	Station name	Date	Time	Bisphenol A, solids (µg/kg) (63188)	Cholesterol, solids (µg/kg) (63196)	*d*-Limonene, solids (µg/kg) (63203)	Fluoranthene, solids (µg/kg) (63208)	Indole, solids (µg/kg) (63210)	Naphthalene, solids (µg/kg) (63220)	*p*-Cresol, solids (µg/kg) (63222)	Phenanthrene, solids (µg/kg) (63224)	Phenol, solids (µg/kg) (63225)	Pyrene, solids (µg/kg) (63227)
Russian River sites														
7	11465400	Russian River at Wohler Bridge	08/31/2005	16:00	<50	590	<25	E10	61	E22	82	62	<50	E11
11	11467002	Russian River at Johnson's Beach	09/13/2005	10:30	<50	2,200	<25	E24	280	61	94	170	280	43
13	382757123003801	Russian River at Monte Rio	09/13/2005	13:30	E29	8,700	<25	40	800	140	1200	280	810	96
22	11466800	Mark West Creek near Mirabel Heights	09/14/2005	14:00	E120	4,900	E51	64	860	54	<50	44	2,100	65

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Discharge, inst. (ft^3/s) (00061)	Turbidity, IR LED (FNU) (63680)	Barometric pressure, (mm of Hg) (00025)	Dissolved oxygen, (mg/L as O_2) (00300)	Dissolved oxygen, (percent saturation) (00301)	pH, field (standard units) (00400)	Specific conductance, field (µS/cm) (00095)
2	11462500	Russian River near Hopland	06/14/2010	13:00	221 [b]	14	750	10.1	105	7.7	212
			08/23/2010	11:30	–	6.6	–	9.9	–	7.8	189
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	271	6.8	754	12.3	136	8.6	234
			08/23/2010	15:00	144 [b]	4.9	–	11.0	–	8.4	204
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	360 [b]	2.2	760	8.1	89	8.0	297
			08/24/2010	09:00	132 [b]	0.7	–	7.8	–	8.1	272
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	502	2.1	761	9.0	101	8.0	279
			08/24/2010	13:00	218	0.9	–	9.4	–	8.1	246
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	([a])	2.9	762	8.2	88	7.9	277
			08/25/2010	09:00	([a])	1.5	–	7.9	–	7.9	248
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	410	3.6	763	9.1	101	8.0	289
			08/25/2010	13:00	124	1.3	–	9.7	–	8.3	256
9	11467000	Russian River near Guerneville	06/17/2010	10:00	385 [b]	3.2	762	7.8	86	7.9	288
			08/26/2010	09:00	103 [b]	2.9	–	7.4	–	7.8	255
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	([a])	1.9	763	8.1	90	7.9	290
			08/26/2010	12:00	([a])	3.4	–	8.8	–	8.2	255
			10/14/2010	12:30	623	2.1	768	9.3	100	7.3	147
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	419	1.7	763	9.2	106	8.1	291
			08/26/2010	13:30	113	3.1	–	8.7	–	8.0	259
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	–	1.8	761	8.2	92	8.0	292
			08/27/2010	09:30	–	1.5	–	7.3	–	7.9	259
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	27	6.1	774	6.2	65	7.7	452
			08/25/2010	10:30	3 [b]	5.8	–	6.1	–	7.8	572
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	–	0.2	762	1.2	–	7.5	253
			08/25/2010	19:00	–	0.1	–	2.7	–	7.5	261
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	–	0.3	761	6.5	–	7.4	270
			08/25/2010	17:30	–	0.3	–	1.3	–	7.6	262
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	–	0.6	–	3.4	–	6.7	507
			08/24/2010	15:00	–	0.5	–	3.0	–	6.7	505

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.–Continued

[[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Temperature, water (°C) (00010)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Potassium, dissolved (mg/L as K) (00935)	Sodium, dissolved (mg/L as Na) (00930)	Acid neutralizing capacity, lab (mg/L as $CaCO_3$) (90410)	Bromide, dissolved (mg/L as Br) (71870)
2	11462500	Russian River near Hopland	06/14/2010	13:00	16.6	20.8	9.38	1.11	9.06	90	E0.01
			08/23/2010	11:30	14.6	18.5	8.35	1.05	7.00	84	E0.01
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	19.7	22.4	11.6	1.14	9.39	103	E0.02
			08/23/2010	15:00	18.8	19.3	9.41	.99	7.43	92	E0.01
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	19.9	28.5	16.1	1.17	9.55	132	E0.02
			08/24/2010	09:00	20.7	26.1	14.3	1.05	8.72	126	0.03
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	20.7	26.5	15.3	1.16	10.0	122	0.02
			08/24/2010	13:00	21.7	22.5	12.7	.97	8.87	109	0.02
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	18.5	25.4	14.7	1.03	9.28	122	0.03
			08/25/2010	09:00	21.2	22.6	12.9	1.00	9.25	110	0.02
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	20.4	26.1	15.5	1.24	10.3	126	0.03
			08/25/2010	13:00	23.7	21.9	12.8	1.00	9.93	112	0.03
9	11467000	Russian River near Guerneville	06/17/2010	10:00	19.6	26.4	15.7	1.24	10.6	126	0.03
			08/26/2010	09:00	21.1	22.3	13.6	1.04	9.20	114	0.03
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	20.8	26.9	15.9	1.31	10.8	126	0.03
			08/26/2010	12:00	22.6	23.8	14.0	1.09	9.44	115	0.03
			10/14/2010	12:30	19.1	20.6	11.1	1.05	7.95	97	–
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	22.2	25.5	15.2	1.24	10.5	127	0.03
			08/26/2010	13:30	23.3	23.1	14.2	1.12	9.00	116	0.03
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	21.0	26.7	16.2	1.30	10.9	128	0.03
			08/27/2010	09:30	21.3	23.2	14.5	1.20	9.70	117	0.03
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	18.9	33.2	24.1	3.08	27.4	188	0.09
			08/25/2010	10:30	19.1	39.5	31.2	3.18	38.1	250	0.12
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	15.2	23.4	13.4	0.94	8.6	113	0.03
			08/25/2010	19:00	17.2	25.2	13.7	1.00	8.9	120	0.03
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	20.5	24.8	14.0	1.18	9.2	117	0.03
			08/25/2010	17:30	20.4	25.4	13.9	1.10	8.9	120	0.04
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	16.0	47.3	36.2	1.35	7.44	214	0.03
			08/24/2010	15:00	16.7	46.7	35.2	1.28	7.30	217	0.03

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.–Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Sulfate, dissolved (mg/L as SO_4) (00945)	Solids, residue at 180°C dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, ammonia +organic, dissolved (mg/L as N) (00623)
2	11462500	Russian River near Hopland	06/14/2010	13:00	5.36	0.09	12.2	10.1	136	0.388	1.3
			08/23/2010	11:30	3.97	E0.08	11.3	8.47	112	<0.020	0.18
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	5.59	0.11	11.8	11.3	132	<0.020	0.22
			08/23/2010	15:00	4.38	0.08	9.79	9.07	120	<0.020	0.19
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	5.67	0.10	12.4	15.9	176	E0.014	0.14
			08/24/2010	09:00	5.52	0.09	11.5	13.9	144	<0.020	0.12
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	6.71	0.10	13.1	14.8	161	E0.014	0.17
			08/24/2010	13:00	6.19	0.09	12.9	12.4	135	<0.020	0.12
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	5.81	0.11	13.3	14.9	160	E0.015	0.12
			08/25/2010	09:00	6.67	0.10	13.1	12.4	141	<0.020	0.13
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	6.90	0.10	14.1	15.0	164	E0.017	0.16
			08/25/2010	13:00	8.06	0.09	13.2	12.5	141	<0.020	0.23
9	11467000	Russian River near Guerneville	06/17/2010	10:00	7.02	0.10	14.4	15.2	171	0.021	0.16
			08/26/2010	09:00	6.97	0.10	13.7	12.6	147	<0.020	0.10
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	7.12	0.10	14.0	14.9	153	0.020	0.15
			08/26/2010	12:00	6.22	0.11	14.1	12.7	154	0.028	0.10
			10/14/2010	12:30	5.01	0.11	12.7	10.9	133	<0.01	0.13
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	7.32	0.12	13.9	14.9	166	E0.016	0.17
			08/26/2010	13:30	6.48	0.01	14.5	12.6	–	<0.020	0.11
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	7.28	0.11	14.2	14.7	166	0.027	0.20
			08/27/2010	09:30	6.83	0.10	15.1	12.5	161	<0.020	0.11
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	22.9	0.12	28.8	15.4	288	0.047	0.41
			08/25/2010	10:30	32.2	0.15	33.3	17.5	359	0.037	0.33
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	5.78	0.09	12.80	11.80	132	<0.020	E0.05
			08/25/2010	19:00	5.74	0.10	13.90	13.60	148	<0.020	<0.10
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	5.99	0.11	14.10	15.00	176	<0.020	E0.06
			08/25/2010	17:30	5.65	0.13	14.20	12.50	147	<0.020	E0.05
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	5.98	E0.07	23.0	47.9	303	<0.020	E0.07
			08/24/2010	15:00	6.15	E0.07	22.7	51.3	291	<0.020	<0.10

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.–Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Nitrogen, ammonia + organic, total (mg/L as N) (00625)	Nitrogen, NO_2+NO_3, dissolved (mg/L as N) (00631)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Phosphorous, dissolved (mg/L as P) (00666)	Phosphorus, ortho-phosphate, dissolved (mg/L as P) (00671)	Phosphorous, total (mg/L as P) (00665)	Carbon, organic, dissolved (mg/L as C) (00681)
2	11462500	Russian River near Hopland	06/14/2010	13:00	0.27	0.41	0.005	0.028	E0.004	0.083	2.4
			08/23/2010	11:30	0.23	0.24	0.006	0.054	0.050	0.069	2.7
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	0.19	0.28	0.005	0.038	0.038	0.053	2.2
			08/23/2010	15:00	0.25	0.11	0.002	0.032	0.028	0.049	2.5
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	0.15	0.12	0.003	0.009	0.011	0.018	1.8
			08/24/2010	09:00	0.17	<0.04	<0.002	E0.004	0.009	0.010	1.7
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	0.16	0.11	0.002	0.009	0.012	0.017	1.7
			08/24/2010	13:00	0.15	<0.04	<0.002	0.007	0.010	0.013	1.6
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	0.14	0.12	E0.004	0.009	0.013	0.017	1.8
			08/25/2010	09:00	0.12	<0.04	<0.002	0.006	0.011	0.014	1.5
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	0.15	0.12	0.003	0.034	0.035	0.048	1.9
			08/25/2010	13:00	0.12	<0.04	<0.002	0.013	0.016	0.023	1.5
9	11467000	Russian River near Guerneville	06/17/2010	10:00	0.17	0.13	0.003	0.035	0.036	0.050	1.7
			08/26/2010	09:00	0.13	<0.04	<0.002	0.014	0.017	0.025	1.6
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	0.14	0.09	0.003	0.035	0.038	0.048	–
			08/26/2010	12:00	0.15	<0.04	<0.002	0.016	0.018	0.025	1.6
			10/14/2010	12:30	0.20	<0.02	<0.001	00.02	0.02	0.04	2.1
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	0.15	0.06	0.003	0.035	0.037	0.046	1.8
			08/26/2010	13:30	0.14	<0.04	<0.002	0.020	0.021	0.029	1.6
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	0.27	0.06	0.003	0.037	0.037	0.048	1.8
			08/27/2010	09:30	0.19	<0.04	<0.002	0.026	0.026	0.034	1.7
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	0.53	0.07	0.006	0.410	0.413	0.513	4.9
			08/25/2010	10:30	0.37	0.08	0.004	0.332	0.310	0.379	3.9
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	–	0.11	<0.002	<0.04	0.021	–	0.7
			08/25/2010	19:00	–	0.15	<0.002	<0.04	0.023	–	E0.4
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	–	0.13	<0.002	E0.03	0.043	–	1.0
			08/25/2010	17:30	–	0.06	<0.002	0.05	0.043	–	E0.6
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	–	1.11	E0.001	<0.04	0.023	–	0.7
			08/24/2010	15:00	–	0.99	<0.002	<0.04	0.020	–	E0.5

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.–Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Carbon, organic, total (mg/L as C) (00680)	Aluminum, dissolved (µg/L as Al) (01106)	Antimony, dissolved (µg/L as An) (01095)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Beryllium, dissolved (µg/L as Be) (01010)	Boron, dissolved (µg/L as B) (01020)
2	11462500	Russian River near Hopland	06/14/2010	13:00	2.8	15.7	0.21	0.75	61	<0.01	251
			08/23/2010	11:30	2.4	25.4	0.20	0.89	52	<0.01	215
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	–	9.1	0.08	0.68	68	E0.01	324
			08/23/2010	15:00	3.0	11.0	0.14	0.81	63	<0.01	306
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	–	3.8	0.13	0.70	92	E0.01	332
			08/24/2010	09:00	2.2	<3.4	0.18	0.62	90	<0.01	340
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	1.9	4.0	0.10	0.72	80	<0.01	258
			08/24/2010	13:00	1.9	3.5	0.09	0.55	73	<0.01	238
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	1.7	3.8	0.10	0.61	81	<0.01	258
			08/25/2010	09:00	2.0	E2.5	0.15	0.61	74	<0.01	241
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	1.9	4.7	0.10	0.72	81	<0.01	284
			08/25/2010	13:00	2.1	7.0	0.13	0.61	71	<0.01	227
9	11467000	Russian River near Guerneville	06/17/2010	10:00	1.9	E3.0	0.09	0.75	80	E0.01	256
			08/26/2010	09:00	2.1	E2.1	0.13	0.63	74	<0.01	231
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	2.1	E3.0	0.11	0.82	79	<0.01	267
			08/26/2010	12:00	2.1	E2.3	0.13	0.72	69	<0.01	241
			10/14/2010	12:30	3.2	3.9	0.18	0.86	63	<0.01	216
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	2.0	E2.0	0.11	0.91	78	<0.01	261
			08/26/2010	13:30	1.8	E2.5	0.15	0.87	73	<0.01	228
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	2.0	E2.9	0.11	0.94	78	<0.01	260
			08/27/2010	09:30	1.9	10.3	0.18	0.97	74	<0.01	229
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	5.7	5.3	0.23	2.3	60	<0.01	152
			08/25/2010	10:30	4.9	E2.5	0.12	2.1	86	<0.01	195
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	–	–	–	–	–	–	–
			08/25/2010	19:00	–	–	–	–	–	–	–
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	–	–	–	–	–	–	–
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	–	–	–	–	–	–	–
			08/24/2010	15:00	–	–	–	–	–	–	–

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Cobalt, dissolved (µg/L as Co) (01035)	Copper, dissolved (µg/L as Cu) (01040)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Lithium, dissolved (µg/L as Li) (01130)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.02	0.31	2.4	1.2	28	0.04	2.4
			08/23/2010	11:30	<0.02	0.28	1.2	2.2	42	0.03	2.1
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.02	0.29	0.37	E0.80	18	E0.02	2.7
			08/23/2010	15:00	<0.02	0.21	0.60	2.2	22	E0.02	2.3
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.02	0.44	0.26	E0.92	E6	E0.02	2.6
			08/24/2010	09:00	<0.02	0.24	0.73	E0.88	8	<0.03	3.0
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.02	0.44	0.19	1.2	9	<0.03	2.7
			08/24/2010	13:00	<0.02	0.36	0.15	1.8	19	E0.02	2.3
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.02	0.41	0.15	E0.72	13	0.03	2.7
			08/25/2010	09:00	<0.02	0.28	0.63	E0.98	12	<0.03	2.3
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.02	0.42	0.13	E0.97	12	E0.02	3.2
			08/25/2010	13:00	<0.02	0.25	0.24	1.4	11	<0.03	2.3
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.02	0.41	0.13	E0.91	10	E0.02	2.9
			08/26/2010	09:00	<0.02	0.26	0.39	E0.80	11	E0.02	2.4
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.02	0.43	0.15	E0.54	9	<0.03	2.5
			08/26/2010	12:00	<0.02	0.24	0.42	E0.78	7	<0.03	2.4
			10/14/2010	12:30	<0.02	0.19	1.0	1.2	17	<0.01	1.9
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.02	0.37	0.26	E0.81	7	<0.03	2.4
			08/26/2010	13:30	<0.02	0.21	0.58	1.5	12	E0.02	2.3
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.02	0.33	0.18	E0.53	10	E0.02	2.4
			08/27/2010	09:30	<0.02	0.26	0.49	1.2	10	<0.03	2.4
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.02	0.24	2.7	E0.95	44	0.04	6.1
			08/25/2010	10:30	<0.02	E0.10	0.31	1.2	18	<0.03	7.9
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	–	–	–	–	<6	–	–
			08/25/2010	19:00	–	–	–	–	<6	–	–
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	–	–	–	–	<6	–	–
			08/25/2010	17:30	–	–	–	–	<6	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	–	–	–	–	<6	–	–
			08/24/2010	15:00	–	–	–	–	E4	–	–

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Molybdenum, dissolved (µg/L as Mo) (01060)	Nickel, dissolved (µg/L as Ni) (01065)	Selenium, dissolved (µg/L as Se) (01145)	Silver, dissolved (µg/L as Ag) (01075)	Strontium, dissolved (µg/L as Sr) (01080)
2	11462500	Russian River near Hopland	06/14/2010	13:00	13.8	<0.010	0.3	1.8	0.08	<0.010	196
			08/23/2010	11:30	7.8	<0.010	0.3	1.6	0.09	<0.010	184
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	4.4	<0.010	0.3	1.5	0.09	<0.010	221
			08/23/2010	15:00	4.4	<0.010	0.3	1.4	0.07	<0.010	193
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	3.6	<0.010	0.4	2.0	0.10	<0.010	272
			08/24/2010	09:00	3.4	<0.010	0.4	1.5	0.07	<0.010	248
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	7.6	<0.010	0.4	1.7	0.09	<0.010	237
			08/24/2010	13:00	7.3	<0.010	0.4	1.4	0.06	<0.010	203
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	6.3	<0.010	0.4	1.7	0.08	<0.010	241
			08/25/2010	09:00	5.5	<0.010	0.4	1.4	0.07	<0.010	203
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	14.0	<0.010	0.4	1.7	0.06	<0.010	241
			08/25/2010	13:00	5.4	<0.010	0.4	1.3	0.06	<0.010	198
9	11467000	Russian River near Guerneville	06/17/2010	10:00	8.8	<0.010	0.4	1.8	0.06	<0.010	235
			08/26/2010	09:00	9.8	<0.010	0.4	1.4	0.06	<0.010	206
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	2.1	<0.010	0.4	2.0	0.08	<0.010	239
			08/26/2010	12:00	3.8	<0.010	0.4	1.4	0.06	<0.010	205
			10/14/2010	12:30	5.5	–	0.3	1.5	0.06	<0.005	198
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	5.7	<0.010	0.4	2.0	0.06	<0.010	238
			08/26/2010	13:30	13.2	<0.010	0.4	1.6	0.07	<0.010	207
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	7.6	<0.010	0.4	2.0	0.08	<0.010	236
			08/27/2010	09:30	21.5	<0.010	0.4	1.6	0.07	<0.010	208
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	208	<0.010	0.6	3.5	0.12	<0.010	192
			08/25/2010	10:30	241	<0.010	0.8	3.2	0.08	<0.010	232
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	E0.2	–	–	–	–	–	–
			08/25/2010	19:00	0.2	–	–	–	–	–	–
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	0.2	–	–	–	–	–	–
			08/25/2010	17:30	0.2	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	0.2	–	–	–	–	–	–
			08/24/2010	15:00	0.3	–	–	–	–	–	–

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Thallium, dissolved (µg/L as Tl) (01057)	Vanadium, dissolved (µg/L as V) (01085)	Zinc, dissolved (µg/L as Zn) (01090)	1,4-Dichloro-benzene, dissolved (µg/L) (34572)	1-Methyl-naphthalene, dissolved (µg/L) (62054)	2, 6-Di-methyl-naph-thalene, dissolved (µg/L) (62055)	2-Methyl-naphthalene, dissolved (µg/L) (62056)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.02	0.86	<2.8	<0.040	<0.022	<0.1	<0.036
			08/23/2010	11:30	<0.02	0.77	<2.8	<0.040	<0.022	<0.1	<0.036
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.02	0.78	<2.8	<0.040	<0.022	<0.1	<0.036
			08/23/2010	15:00	<0.02	0.75	<2.8	<0.040	<0.022	<0.1	<0.036
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.02	0.94	4.6	<0.040	<0.022	<0.1	<0.036
			08/24/2010	09:00	<0.02	0.88	<2.8	<0.040	<0.022	<0.1	<0.036
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.02	0.98	<2.8	<0.040	<0.022	<0.1	<0.036
			08/24/2010	13:00	<0.02	0.88	<2.8	<0.040	<0.022	<0.1	<0.036
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.02	0.95	<2.8	<0.040	<0.022	<0.1	<0.036
			08/25/2010	09:00	<0.02	0.94	<2.8	<0.040	<0.022	<0.1	<0.036
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.02	1.1	<2.8	<0.040	<0.022	<0.1	<0.036
			08/25/2010	13:00	<0.02	0.99	<2.8	<0.040	<0.022	<0.1	<0.036
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.02	1.0	<2.8	<0.040	<0.022	<0.1	<0.036
			08/26/2010	09:00	<0.02	1.0	<2.8	<0.040	<0.022	<0.1	<0.036
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	E0.02	1.2	<2.8	<0.040	<0.022	<0.1	<0.036
			08/26/2010	12:00	<0.02	1.3	<2.8	<0.040	<0.022	<0.1	<0.036
			10/14/2010	12:30	<0.01	0.98	<1.4	<0.040	<0.022	<0.1	<0.036
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.02	1.1	<2.8	<0.040	<0.022	<0.1	<0.036
			08/26/2010	13:30	<0.02	1.4	<2.8	<0.040	<0.022	<0.1	<0.036
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.02	1.2	<2.8	<0.040	<0.022	<0.1	<0.036
			08/27/2010	09:30	<0.02	1.4	<2.8	<0.040	<0.022	<0.1	<0.036
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.02	2.6	E1.4	<0.040	<0.022	<0.1	<0.036
			08/25/2010	10:30	<0.02	2.7	<2.8	<0.040	<0.022	<0.1	<0.036
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	–	–	–	<0.040	<0.022	<0.1	<0.036
			08/25/2010	19:00	–	–	–	<0.040	<0.022	<0.1	<0.036
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	–	–	–	<0.040	<0.022	<0.1	<0.036
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	–	–	–	<0.040	<0.022	<0.1	<0.036
			08/24/2010	15:00	–	–	–	<0.040	<0.022	<0.1	<0.036

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and three groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	3-β-Coprostanol, dissolved (µg/L) (62057)	3-Methyl-1H-indole, dissolved (µg/L) (62058)	3-*tert*-Butyl–4-hydroxyanisole, dissolved (µg/L) (62059)	4-Cumyl-phenol, dissolved (µg/L) (62060)	4-n-Octyl-phenol, dissolved (µg/L) (62061)	4-Nonyl-phenol, dissolved (µg/L) (62085)	4-Nonyl-phenol di-ethoxylates dissolved (µg/L) (62083)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/23/2010	11:30	<2	<0.036	–	<0.06	<0.16	<2	<5
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/23/2010	15:00	<2	<0.036	–	<0.06	<0.16	<2	<5
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/24/2010	09:00	<2	<0.036	–	<0.06	<0.16	<2	<5
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/24/2010	13:00	<2	<0.036	–	<0.06	<0.16	<2	<5
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/25/2010	09:00	<2	<0.036	–	<0.06	<0.16	<2	<5
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/25/2010	13:00	<2	<0.036	–	<0.06	<0.16	<2	<5
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/26/2010	09:00	<2	<0.036	–	<0.06	<0.16	<2	<5
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/26/2010	12:00	<2	<0.036	–	<0.06	<0.16	<2	<5
			10/14/2010	12:30	<2	<0.036	–	<0.06	<0.16	<2	<5
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/26/2010	13:30	<2	<0.036	–	<0.06	<0.16	<2	<5
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/27/2010	09:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/25/2010	10:30	<2	<0.036	–	<0.06	<0.16	<2	<5
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/25/2010	19:00	<2	<0.036	<8	<0.06	<0.16	<2	<5
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<2	<0.036	<8	<0.06	<0.16	<2	<5
			08/24/2010	15:00	<2	<0.036	–	<0.06	<0.16	<2	<5

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	4-Octylphenol diethoxylates dissolved (µg/L) (61705)	4-Octylphenol monoethoxylates dissolved (µg/L) (61706)	4-*tert*-Octylphenol, dissolved (µg/L) (62062)	5-Methyl-1H-benzotriazole, dissolved (µg/L) (62063)	9,10-Anthraquinone, dissolved (µg/L) (62066)	Acetophenone, dissolved (µg/L) (62064)	AHTN, dissolved (µg/L) (62065)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/23/2010	11:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/23/2010	15:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/24/2010	09:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/24/2010	13:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/25/2010	09:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/25/2010	13:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/26/2010	09:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/26/2010	12:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			10/14/2010	12:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/26/2010	13:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/27/2010	09:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/25/2010	10:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/25/2010	19:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<1	<1	<0.14	<1	<0.2	<0.4	<0.028
			08/24/2010	15:00	<1	<1	<0.14	<1	<0.2	<0.4	<0.028

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Anthracene, dissolved (µg/L) (34221)	Benzo-[*a*]-pyrene, dissolved (µg/L) (34248)	Benzophenone, dissolved (µg/L) (62067)	β-Sitosterol, dissolved (µg/L) (62068)	β-Stigmastanol, dissolved (µg/L) (62086)	Bromacil, dissolved (µg/L) (04029)	Caffeine, dissolved (µg/L) (50305)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/23/2010	11:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/23/2010	15:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/24/2010	09:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/24/2010	13:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/25/2010	09:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/25/2010	13:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/26/2010	09:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/26/2010	12:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			10/14/2010	12:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/26/2010	13:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/27/2010	09:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/25/2010	10:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/25/2010	19:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1
			08/24/2010	15:00	<0.028	<0.1	<0.1	<4	<3	<0.4	<0.1

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Camphor, dissolved (µg/L) (62070)	Carbaryl, dissolved (µg/L) (82680)	Carbazole, dissolved (µg/L) (62071)	Chlorpyrifos, dissvolved (µg/L) (38933)	Cholesterol, dissolved (µg/L) (62072)	Cotinine, dissolved (µg/L) (62005)	DEET, dissolved (µg/L) (62082)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/23/2010	11:30	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/23/2010	15:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
			08/24/2010	09:00	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/24/2010	13:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/25/2010	09:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/25/2010	13:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
			08/26/2010	09:00	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/26/2010	12:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			10/14/2010	12:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/26/2010	13:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
			08/27/2010	09:30	<0.044	<0.38	<0.030	<0.2	<2	<0.038	<0.1
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/25/2010	10:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/25/2010	19:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1
			08/24/2010	15:00	<0.044	<0.38	<0.030	<0.2	<2	<0.600	<0.1

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Diazinon, dissolved (µg/L) (39572)	*d*-Limonene, dissolved (µg/L) (62073)	Fluor-anthene, dissolved (µg/L) (34377)	HHCB, dissolved (µg/L) (62075)	Indole, dissolved (mg/L) (62076)	Iso-borneol, dissolved (µg/L) (62077)	Iso-phorone, dissolved (µg/L) (34409)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/23/2010	11:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/23/2010	15:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/24/2010	09:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/24/2010	13:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/25/2010	09:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/25/2010	13:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/26/2010	09:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/26/2010	12:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			10/14/2010	12:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/26/2010	13:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/27/2010	09:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/25/2010	10:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/25/2010	19:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1
			08/24/2010	15:00	<0.2	<0.1	<0.024	<0.1	<0.1	<0.2	<0.1

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; SC, specific conductance; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Isopropyl-benzene, dissolved (µg/L) (62078)	Isoquinoline, dissolved (µg/L) (62079)	Menthol, dissolved (µg/L) (62080)	Metalaxyl, dissolved (µg/L) (50359)	Methyl salicylate, dissolved (µg/L) (62081)	Metolachlor, dissolved (µg/L) (39415)	Naphth-alene, dissolved (µg/L) (34443)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/23/2010	11:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/23/2010	15:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/24/2010	09:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/24/2010	13:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/25/2010	09:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/25/2010	13:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/26/2010	09:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/26/2010	12:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			10/14/2010	12:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/26/2010	13:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/27/2010	09:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/25/2010	10:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/25/2010	19:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040
			08/24/2010	15:00	<0.3	<0.046	<0.03	<0.1	<0.044	<0.1	<0.040

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	*p*-Cresol, dissolved (µg/L) (62084)	Phenanthrene, dissolved (µg/L) (34462)	Prometon, dissolved (µg/L) (04037)	Pyrene, dissolved (µg/L) (34470)	Tetrachloroethene, dissolved (µg/L) (34476)	Tribromomethane, dissolved (µg/L) (34288)	Tributyl phosphate, dissolved (µg/L) (62089)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/23/2010	11:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/23/2010	15:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/24/2010	09:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/24/2010	13:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/25/2010	09:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/25/2010	13:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/26/2010	09:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/26/2010	12:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			10/14/2010	12:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/26/2010	13:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/27/2010	09:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/25/2010	10:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/25/2010	19:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/25/2010	17:30	–	–	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2
			08/24/2010	15:00	<0.08	<0.032	<0.1	<0.042	<0.1	<0.1	<0.2

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Triclosan, dissolved (µg/L) (62090)	Tri-ethyl citrate, dissolved (µg/L) (62091)	Tri-phenyl phosphate, dissolved (µg/L) (62092)	Tris(2-butoxyethyl) phosphate, dissolved (µg/L) (62093)	Tris(2-chloroethyl) phosphate, dissolved (µg/L) (62087)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.20	<0.4	<0.1	<0.8	<0.1
			08/23/2010	11:30	<0.20	<0.4	<0.1	<0.8	<0.1
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/23/2010	15:00	<0.20	<0.4	<0.1	<0.8	<0.1
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/24/2010	09:00	<0.20	<0.4	<0.1	<0.8	<0.1
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/24/2010	13:00	<0.20	<0.4	<0.1	<0.8	<0.1
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.20	<0.4	<0.1	<0.8	<0.1
			08/25/2010	09:00	<0.20	<0.4	<0.1	<0.8	<0.1
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/25/2010	13:00	<0.20	<0.4	<0.1	<0.8	<0.1
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.20	<0.4	<0.1	<0.8	<0.1
			08/26/2010	09:00	<0.20	<0.4	<0.1	<0.8	<0.1
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/26/2010	12:00	<0.20	<0.4	<0.1	<0.8	<0.1
			10/14/2010	12:30	<0.20	<0.4	<0.1	<0.8	<0.1
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.20	<0.4	<0.1	<0.8	<0.1
			08/26/2010	13:30	<0.20	<0.4	<0.1	<0.8	<0.1
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/27/2010	09:30	<0.20	<0.4	<0.1	<0.8	<0.1
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/25/2010	10:30	<0.20	<0.4	<0.1	<0.8	<0.1
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/25/2010	19:00	<0.20	<0.4	0.11	<0.8	<0.1
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.20	<0.4	E0.1	<0.8	<0.1
			08/25/2010	17:30	–	–	–	–	–
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.20	<0.4	<0.1	<0.8	<0.1
			08/24/2010	15:00	<0.20	<0.4	0.11	<0.8	<0.1

Table 15. Discharge measurements and water-quality data collected from 10 Russian River sites, Mark West Creek, and 3 groundwater sites in the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.—Continued

[Number below the constituent or property is the U.S. Geological Survey (USGS) parameter code, which is a 5-digit number used in the USGS National Water Information System (NWIS), to uniquely identify a specific constituent or property. **Abbreviations**: no., number; AHTN, acetyl hexamethyl tetrahydronaphthalene; HHCB, hexahydrohexamethyl cyclopentabenzopyran; DEET, *N,N*-diethyl-meta-toluamide; ft^3/s, cubic feet per second; FNU, formazine nephelometric units; NTU, nephelometric turbidity units; Hg, mercury; mm, millimeter; µS/cm, microsiemens per centimeter; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, actual value less than value shown; E, estimated value; –, no data]

Map site no.	USGS station no.	Station name	Date	Time	Tris(di-chloroisopropy) phosphate, dissolved (µg/L) (62088)	Hydrogen-2/1, (per mil) (82082)	Oxygen-18/16, (per mil) (82085)
2	11462500	Russian River near Hopland	06/14/2010	13:00	<0.2	−53.50	−8.12
			08/23/2010	11:30	<0.2	−57.60	−8.26
3	11463000	Russian River near Cloverdale	06/14/2010	15:30	<0.2	−53.00	−7.91
			08/23/2010	15:00	<0.2	−54.40	−8.20
4	11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	<0.2	−48.70	−7.53
			08/24/2010	09:00	<0.2	−52.70	−7.70
6	383132122514901	Russian River at River Front Park	06/15/2010	13:30	<0.2	−47.00	−7.06
			08/24/2010	13:00	<0.2	−46.80	−6.97
7	11465400	Russian River at Wohler Bridge	06/16/2010	08:00	<0.2	−45.60	−7.06
			08/25/2010	09:00	<0.2	−47.40	−6.94
8	382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	<0.2	−45.90	−6.95
			08/25/2010	13:00	<0.2	−46.00	−6.88
9	11467000	Russian River near Guerneville	06/17/2010	10:00	<0.2	−45.10	−6.89
			08/26/2010	09:00	<0.2	−46.20	−6.90
11	11467002	Russian River at Johnson's Beach	06/17/2010	11:30	<0.2	−45.40	−6.90
			08/26/2010	12:00	<0.2	−45.90	−6.76
			10/14/2010	12:30	<0.2	−51.50	−7.69
13	382757123003801	Russian River at Monte Rio	06/17/2010	14:00	<0.2	−43.90	−6.94
			08/26/2010	13:30	<0.2	−43.20	−6.69
14	382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	<0.2	−42.30	−6.75
			08/27/2010	09:30	<0.2	−43.90	−6.51
22	11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	<0.2	−36.30	−5.49
			08/25/2010	10:30	<0.2	−35.10	−4.82
26	383002122530601	8N/9W-32C1	06/16/2010	17:30	<0.2	−42.60	−6.47
			08/25/2010	19:00	<0.2	−46.40	−6.85
30	383045122525701	8N/9W-29F1	06/16/2010	16:30	<0.2	−46.10	−7.10
			08/25/2010	17:30	–	−46.70	−6.90
33	383132122514501	8N/9W-21F1	06/15/2010	17:30	<0.2	−36.60	−5.78
			08/24/2010	15:00	<0.2	−37.60	−5.69

[a] Grab sample.

[b] Daily stsreamflow measurement obtained from NWISweb.

Table 16. Bacteria concentrations for water samples collected from 10 Russian River sites and Mark West Creek in the Russian River Basin, and quality-control data detected in field blanks from the Russian River Basin, Mendocino and Sonoma Counties, California, 2010.

[**Abbreviations**: no., number; MPN, most probable number; ND, analyte not detected at or above the reporting limit; mL, milliliter; >, actual value greater than value shown]

USGS station no.	Station name	Date	Time	Total coliform, (MPN/100 mL)	Fecal coliform (MPN/100 mL)	Enterococci, (MPN/100 mL)
11462500	Russian River near Hopland	06/14/2010	13:00	>1,600	30	11
		08/23/2010	11:30	170	130	24
11463000	Russian River near Cloverdale	06/14/2010	15:30	>1,600	50	14
		08/23/2010	15:00	350	50	8.0
11463980	Russian River at Digger Bend near Healdsburg	06/15/2010	09:30	>1,600	70	4.0
		08/24/2010	09:00	240	22	22
11465400	Russian River at Wohler Bridge	06/16/2010	08:00	>1,600	50	27
		08/25/2010	09:00	170	50	240
11467000	Russian River near Guerneville	06/17/2010	10:00	500	26	90
		08/26/2010	09:00	280	70	90
11467002	Russian River at Johnson's Beach	06/17/2010	11:30	1,600	17	17
		08/26/2010	12:00	500	9.0	8.0
		10/14/2010	12:30	>1,600	500	900
382754123030501	Russian River at Casini Ranch	06/18/2010	09:30	900	17	4.0
		08/27/2010	09:30	140	2.0	8.0
382757123003801	Russian River at Monte Rio	06/17/2010	14:00	300	4.0	2.0
		08/26/2010	13:30	80	8.0	7.0
382959122535601	Russian River at Steelhead Beach	06/16/2010	13:30	300	22	33
		08/25/2010	13:00	34	17	50
383132122514901	Russian River at River Front Park	06/15/2010	13:30	250	13	4.0
		08/24/2010	13:00	500	30	49
11466800	Mark West Creek near Mirabel Heights	06/16/2010	10:30	>1,600	80	17
		08/25/2010	10:30	>1,600	900	>1,600
Blank sample						
11465400	Russian River at Wohler Bridge	06/16/2010	13:40	ND	ND	ND
		08/25/2010	08:10	ND	ND	ND

Anders and others—**Water-Quality Data for the Russian River Basin, Mendocino and Sonoma Counties, California, 2005–2010**—Data Series 610

Printed on recycled paper