Snapshot Day Report May 7th 2005



Results of a Sanctuary-Wide Water Quality Monitoring Event Author: Bridget Hoover, Monterey Bay Sanctuary Citizen Watershed Monitoring Network

This report is available for download at <u>www.montereybay.noaa.gov/monitoringnetwork/events.html</u>







Executive Summary

Snapshot Day (SSD) is a one-day event that utilizes citizen volunteers to collect and analyze water samples from streams that enter the Monterey Bay National Marine Sanctuary (MBNMS). SSD began on Earth Day 2000 and has become a widely recognized volunteer event in which important water quality information is gathered.

SSD is a partnership between The Monterey Bay Sanctuary Citizen Watershed Monitoring Network (Network) and the Coastal Watershed Council. The Coastal Watershed Council coordinates San Mateo and Santa Cruz counties while the Network coordinates Monterey County, south to Morro Bay.

On the morning of May 7th, 2005, volunteers gathered at four centralized hubs strategically placed in each of the four counties bordering the Sanctuary (San Mateo, Santa Cruz, Monterey, and San Luis Obispo). The Hubs facilitated the tracking of equipment, lab sample chain of custody, verification of complete and accurate data sheets, post calibration measurements, and provides a place for volunteers to gather and feel part of a larger event.

On Snapshot Day, 161 volunteers monitored 163 sites. As in the past events, results show that the majority of sites met the water quality objectives (WQO) intended to support cold water fish habitat. Eighty-six sites (53%) had no exceedances of the WQOs for any of the parameters measured. However, transparency and dissolved oxygen were the most common field measurement to not meet the WQOs at 16% and 15% of the sites respectively. In contrast to 2004, the number of dissolved oxygen exceedances was down from 23%.

Similar to last year, *E. coli* (bacteria from warmblooded animals) and orthophosphate were the parameters analyzed in the lab that most commonly exceeded their water quality objectives. The *E. coli* WQO was exceeded at 16% of the sites, and orthophosphate WQO was exceeded at 18% of the sites. In 2004, the percentage of exceedances for *E. coli* and orthophosphate was 24% so there was a significant decrease in 2005. Sites with orthophosphate exceedances were found throughout the sanctuary except on the Big Sur coast. *E. coli* exceedances were found primarily around the Monterey Bay and in San Luis Obispo County. Just one site in San Mateo County exceeded the *E. coli* WQO.

This year, as in 2004, 18 Areas of Concern (sites that exceeded 3 or WQOs) were identified. Twelve of the 18 sites were Areas of Concern last year. Of the 34 sites identified as Areas of Concern over the past five years, 5 have been Areas of Concern four times, and 1 (Alisal Creek, Salinas) has been an Area of Concern every year.

As we have reported for the past few years, a pattern is emerging from year to year with the data collected by volunteers in this program. The same sites continue to be Areas of Concern and the same pollutants continue to be problematic. However, this year, the percentage of sites that exceeded water quality objectives for each parameter went down from previous years.

There is tremendous opportunity to take this information and target available resources towards implementing management programs and best management practices, educating the local population and revising public policy, with the goal of improving water quality.

The volunteers collecting the data were well trained, and the rigorous quality assurance gives confidence that the results presented in this report are accurate. For the majority of sites, Snapshot Day is the only time these waterbodies are ever monitored. We are grateful to the volunteers and all of our partners listed on the following page for making this event possible.

Central Coast Snapshot Day 2005 was organized by:

The Monterey Bay Sanctuary Citizen Watershed Monitoring Network (Network) supports citizen monitoring programs throughout the Monterey Bay National Marine Sanctuary. (831) 883-9303. www.montereybay.noaa.gov/monitoringnetwork/welcome.html

The **Coastal Watershed Council** is a public education non-profit advocating the preservation and protection of coastal watersheds through establishment of community-based watershed stewardship programs. (831) 426-9012. <u>http://www.coastal-watershed.org/</u>

The **California Coastal Commission** is proud to help support the Central Coast Snapshot Day as an important educational program linking land & water quality stewardship with coastal resource protection. (831) 427-4863. <u>http://www.coastal.ca.gov/</u>

The Monterey Bay National Marine Sanctuary (MBNMS) Water Quality Protection Program works to protect the watersheds along nearly 300 miles of the Sanctuary's coastline. (831) 420-1670 http://www.mbnms.nos.noaa.gov/

The Ocean Conservancy (Center for Marine Conservation) is the largest national nonprofit organization committed solely to protecting ocean environments and conserving the global abundance and diversity of marine life through science-based advocacy, research, and public education, as well as informed citizen participation. (831) 425-1363 http://www.cmc-ocean.org/



Volunteers at the San Mateo Hub in San Gregorio

Participating Agencies and Organizations

Arana Gulch Watershed Alliance **Big Creek Reserve** California Coastal Commission Carmel River Watershed Conservancy Central Coast Regional Water Quality Control Board City of Capitola City of Monterey City of Pacifica City of Pacific Grove City of Santa Cruz City of Watsonville Coastal Watershed Council Creek Environmental Laboratory **Crystal Springs Drinking Water** DeAnza College Earth Systems Science and Policy Program (CSUMB) Elkhorn Slough National Estuarine Research Reserve Garrapata Watershed Council Gulf of the Farallones National Marine Sanctuary Harmony Foods Inc. Kelly's French Bakery Monterev Bay Analytical Services Monterey Bay National Marine Sanctuary Monterey Bay Sanctuary Foundation Monterey County Community Links Monterey Regional Water Pollution Control Agency Morro Bay Volunteer Monitoring Program Natural Resource Conservation Service, Monterey Cty New Leaf Market Odwalla San Gregorio Environmental Resource Center San Gregorio General Store San Lorenzo Urban Restoration Project San Lorenzo Valley High School San Luis Obispo County Environmental Health San Mateo County Environmental Health Santa Cruz Coffee Roasting Company Santa Cruz County Environmental Health Santa Cruz Safeway - Mission Street Scott Creek Watershed Council Sewer Authority Mid-Coastside (SAM) Starbuck's Coffee Surfrider Foundation The Ocean Conservancy Trader Joe's United States Environmental Protection Agency University of California at Santa Cruz Environmental Studies Dept. Upper Salinas Las Tablas RCD Upper Salinas Watershed Coalition Watershed Institute, CSUMB Whole Foods

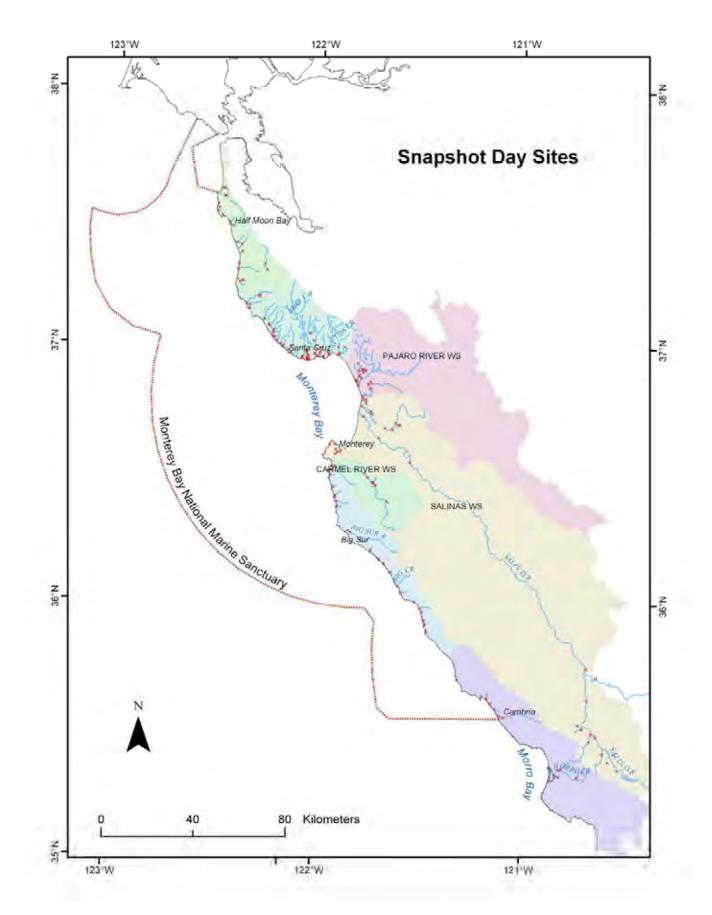


Figure 1. Map of Central Coast monitoring sites

Methods

Teams of trained volunteers measured dissolved oxygen, water and air temperature, conductivity, pH, and transparency or turbidity. They also collected water samples for lab analysis of nitrate, orthophosphate, total coliform and *E. coli*. Monitoring teams were provided with a bucket "kit" that included either a Winkler or CHEMets Dissolved Oxygen kit, two bulb thermometers (for air and water) or one digital thermometer, Oakton conductivity meter, Machery-Nagel non-bleeding pH strips and a transparency tube or dual cylinder turbidity kit. The bucket also included distilled water, gloves, paper towels, trash bag, pens/pencils, sample bottles and clipboard with data sheets, instruction, maps, and photo documentation forms.



Denyse Frischmuth records observations while Robert Frischmuth, Vicky Pearse, and Louise Pearse prepare to monitor at the mouth of the Carmel River. Photo by Warren Yogi

The sample collection and field measurements were taken using the protocols developed by the State Water Resources Control Board's Clean Water Team and detailed in the 2003 California Coast Wide Snapshot Day Monitoring Plan. The results were compared with general Water Quality Objectives (WQOs) designated by the Central Coast Ambient Monitoring Program (CCAMP), the General Basin Plan or the US Environmental Protection Agency (see Table 1). In order to ensure valuable data, a state approved Quality Assurance Project Plan and Monitoring Plan was developed specifically for this event. The volunteers collecting the data were well trained, and the rigorous quality assurance gives confidence that the results presented in this report are accurate.

Table 1.	. Water	Quality	Objectives
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Parameter	Water Quality	Source of
<u>(reporting units)</u>	<u>Objectives</u>	<u>Objective</u>
Dissolved Oxygen	Not lower than	Basin Plan
(ppm)	7 or greater	Objective for Cold
(ррш)	than 12	Water Fish
	Not less than	General Basin
pH	6.5 or more	
-	than 8.5	Plan objective
		Basin Plan
Water	Not more than	Objective for Cold
Temperature (°C)	22	Water Fish
		Central Coast
Transparency (cm)	Not less than	Ambient
	Not less than 25	Monitoring
	23	Program
		(CCAMP)
		Central Coast
Nitrate as N	Not to exceed	Ambient
(ppm)	2.25	Monitoring
(hhm)	2.23	Program
		(CCAMP)
		Central Coast
Outhonhosphato	Not to exceed	Ambient
Orthophosphate	0.12	Monitoring
as P (ppm)	0.12	Program
		(CCAMP)
E. coli	Not to exceed	EPA Ambient
	400	Water Quality
(MPN/100ml)	400	Criteria



Jenny Snook measures pH at Natividad Creek in Salinas

Results

On the Central Coast, 161 volunteers monitored 163 sites on 107 water bodies. This year, there were 50 fewer volunteers than in 2004, but they were still able to monitor more waterbodies than previous years. It was a mostly sunny day on the coast with air temperatures ranging between 10.8 °C (51.4 °F) and 17.0°C (62.6 °F).

Most stations met the water quality objectives as detailed in Table 1. Eighty-six sites, compared to 87 sites in 2004, had no exceedance for any of the water quality objectives. Once again, orthophosphate and *E. coli* were the two parameters that most often exceeded their water quality objectives at 18% and 16% of the sites. This was down significantly from 2004 in which 24% of the sites exceeded each of those parameters.

All of the data from Snapshot Day 2005 can be found in tabular form in Attachment 3, which lists the results of every parameter by site. The data is also reported visually on the maps found on pages 10-12. Map #1 shows nitrate-N results. Map #2 shows orthophosphate-P results. Map # 3 shows *E. coli* results.

The following describes the parameters evaluated during this event and their importance in the aquatic ecosystem. Please refer to Table 2 for statistical summaries.

Water Temperature

Water temperature is an important environmental factor for fish and other aquatic life, as many species need specific temperatures to survive and reproduce.

Table 2. Snapshot Day Statistics

Temperature also affects the concentration of dissolved oxygen in the water column and the rate of photosynthesis for aquatic plants. Human activities such as water diversions that decrease flows or removal of streamside vegetation that shades the water, can lead to elevated water temperatures.

It is important to keep in mind that much of the data was collected in the morning hours; therefore water temperature results likely do not reflect the maximum daily or annual temperature for the water body.

The Basin Plan Objective for Cold Water Fish is water temperature less than 22 degrees Celsius (22°C). Temperatures above 22°C can be stressful for coho and steelhead and other aquatic organisms. The average temperature for Central Coast sites was 15.2°C and the median 14.2°C. This year, just four sites exceeded the temperature WQO with values between 22.6 and 30.0 °C. This is down from twelve sites in 2004. Stations with elevated temperatures from lowest to highest were Santa Rita Creek, Harkin Slough and two sites on Moro Cojo Slough.

Dissolved Oxygen

All aquatic animals require dissolved oxygen to breath. The concentration of dissolved oxygen in the water column affects a wide range of behaviors such as feeding, spawning, and incubation. Lowered dissolved oxygen is mainly a result of excessive nutrients which promote plant growth. In the process of breaking down plant matter, organisms deplete available oxygen through respiration.

		Stations	Number of	Percent of Sites with	Minimum	Maximum	Average	Median
Parameter	WQO	Sampled	Exceedences	Exceedences	Result	Result	Result	Result
AirTemp (°C)	none	15						
WaterTemp (°C)	<u>≺</u> 22	15						
Dissolved Oxygen (mg/L)	<u>≥</u> 7, <u>≤</u> 12	14						
рН	≥6.5,≤8.5	16						
Conductivity (µS)	none	15						
Transparency (cm)	≥ 25	10						
Turbidity (JTU)	<u>≺</u> 20	40						
E. coli (MPN/100 ml)	<u>≺</u> 400	16						
Total coliform (MPN/100 ml)	<u>≺</u> 10000	16						
Nitrate-N (mg-N/L)	<u>≺</u> 2.25	16						
Orthophosphate-P (mg-P/L)	< 0.12	16						

The General Basin Plan Objective for dissolved oxygen is not less than 5 milligrams per liter (mg/l), however, on the Central Coast we use the Water Quality Objective for Cold Water Fish, which is not less than 7 mg/l or greater than 12 mg/l, based on the amount of dissolved oxygen needed by migrating steelhead trout. The average dissolved oxygen level for Central Coast sites was 8.9 mg/l, very similar to 8.5 mg/l last year and 8.9 in 2003. Fifteen sites ranged from 6.6 mg/l to as low as 1.8 mg/l. Six sites had saturated dissolved oxygen concentrations between 12.2 and 19.0 mg/l. They were Tembladero Slough, Pomponio Creek, San Lorenzo River, and three sites in the Moro Cojo. The total number of exceedances was down from 37 in 2004.

Conductivity

Conductivity is a measure of the ability of water to conduct electrical current. Measuring conductivity gives an indication of the amount of total solids (such as salts, mineral, acids, and metals) dissolved in the water. Conductivity varies with water source and geographic region.

There is no water quality objective for conductivity. However, once a baseline of conductivity values is established, variations may signal a change in the waterbody's composition. For example, a decline in conductivity may be caused by rainwater and an increase in conductivity may signal sources of pollution such as agricultural runoff or municipal wastewater. Snapshot Day volunteers measured conductivity to establish a baseline for future comparisons.

Alkalinity/Acidity (pH)

pH is a measure of the percent of hydrogen ions in a water column. Water with a pH value of 7 is neutral, above 9 is alkaline and below 5 is acidic. Many chemical reactions in aquatic organisms that are critical for survival and growth, occur only within a very narrow pH range. Also, fish gills and fins can be damaged in extreme pH conditions.

The General Basin Plan Objective for pH fall between 8.5 and 6.5. The average pH level for all Central Coast sites was 7.2 and median 7.3. The average remained

the same as last year and down from 7.6 in 2003. Fourteen sites in San Mateo, Santa Cruz and San Luis Obispo counties had pH values between 6.3 and 5.0. Rinconada Creek in the upper Salinas River watershed had the lowest pH value of 5.0. The three Moro Cojo Slough sites had a pH of 9.0 or greater. The Moro Cojo sites also exceeded this water quality objective in 2003 and 2004.



Carissa Carter at San Vicente Creek in Davenport filling the transparency tube

Turbidity/Transparency

Turbidity is a measure of the amount of suspended particles in water. Natural turbidity levels vary from stream to stream. Excessive turbidity may indicate erosion, nutrient loading, or artificial algae growth. Approximately 2/3 of the Snapshot Day teams assessed area water bodies using a transparency tube. The other teams used the dual cylinder method or turbidimeters.

Seventeen (16%) sites where transparency tubes were used (up from thirteen (14%) sites in 2004) did not meet the CCAMP Action Level for transparency of 25 cm (see Table 2). That means that the water was so turbid that a miniature secchi disc could not be viewed through 25 centimeters of water. As was the case in 2003 and 2004, thirteen of the seventeen sites were located in the lower Salinas Valley watershed.

There is not an established water quality objective for turbidity measured by the dual cylinder method, however, a typical turbidity value for muddy water after a storm is between 20-50 Jackson Turbidity Units (JTU). One site (3%) (down from ten sites in 2004) reported turbidity above this range. Waddell Creek in Santa Cruz County was the only site to exceed the WQO with a value of 30 JTU.

Volunteers also recorded turbidity by a visual analysis, classifying water clarity at a given site as: clear, cloudy, or turbid. Based on the completed data sheets, 75% of the sites were described to have clear water, which is exactly the same as in 2003 and 2004.

Nutrients

Nitrate and orthophosphate are nutrients that occur naturally in water bodies and promote aquatic plant growth. Excessive nutrient levels can lead to excessive algal and aquatic weed growth that in turn depletes the available oxygen in the water column. Runoff containing detergents, fertilizers, animal waste, industrial waste, or sewage, contributes to elevated nutrient levels as does excess vegetative material from dumping "green waste" into waterways.

Nitrate - Eighteen (11%) sites exceeded the CCAMP action level for nitrate as N of 2.25 mg/l (see Table 2). Nitrate results ranged from non-detect at many of the sites to 39.8 mg-N/l. The average nitrate concentration was 2.86 mg-N/l and the median was 0.24 mg-N/l. All nitrate exceedances were found between the Watsonville Slough and the Lower Salinas Valley except for one site in Morro Bay on Los Osos Creek. The highest concentrations were at the Reclamation Ditch (39.8 mg-N/l), Elkhorn Slough (32.3 mg-N/l), Gabilan Creek (28.6 mg-N/l) and three Tembladero Slough sites (28.4, 27.3, 20.6 mg-N/l). The number of nitrate exceedances was down from twenty-three sites in 2004 and eighteen in 2003.

Orthophosphate - Twenty-eight (18%) sites reported concentrations above the General Basin Plan Objective for orthophosphate set at 0.12 mg-P/l (see Table 2). Orthophosphate results ranged from non-detect at many

sites to 2.38 mg-P/l in Elkhorn Slough. The average orthophosphate concentration was 0.26 mg-P/l and the median was 0.10 mg-P/l. Many of the exceedances were in the lower Salinas Valley and Watsonville Slough watersheds. Other locations with exceedances included; two sites in San Mateo County, one site in Santa Cruz County, and five sites in San Luis Obispo County. The total number of exceedances was down from thirty-nine (24%) sites in 2004.

Coliform

Most coliform bacteria originate from the feces of warm-blooded animals and indicate the presence of human sewage or wildlife contamination, as well as feces-born organisms that can cause diseases such as hepatitis A, bacterial meningitis, and encephalitis. Excessive coliform counts pose potential problems for both aquatic and human health.

E. coli. is a member of the fecal coliform group. The EPA Water Quality Criteria of 400 MPN/100 ml was used as the water quality objective. *E. coli* concentrations exceeded the water quality objective at 26 sites (16%), down from 40 sites in 2004 and 41 sites in 2003 (see Table 2). The highest concentrations were found in Corcoran Lagoon (>24,192 MPN/100 ml), Watsonville Slough (4,611 MPN/100 ml) and Graves Creek in San Luis Obispo (4,352 MPN/100 ml).



Becky Stamski and Ty Kennedy-Bowdoin streamside in Lidell Creek near Davenport

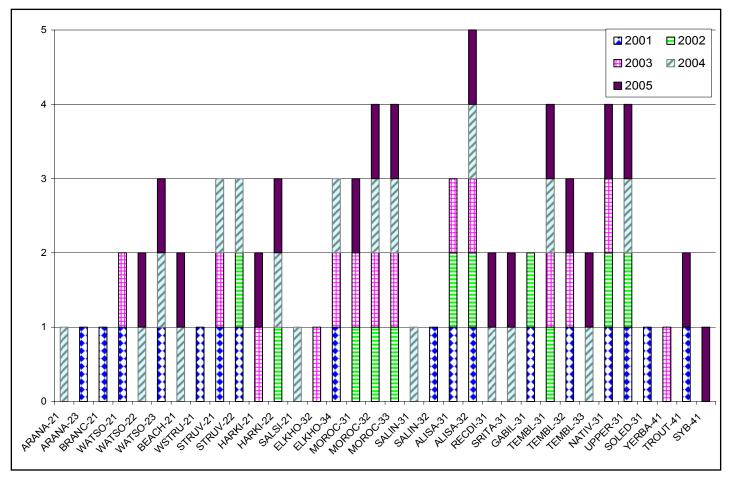


Figure 3. Depicts the number of times a site has been designated an Area of Concern on Snapshot Day for the years 2001-2005 (ALISA-31and SOLED-31 have not been monitored since 2003).

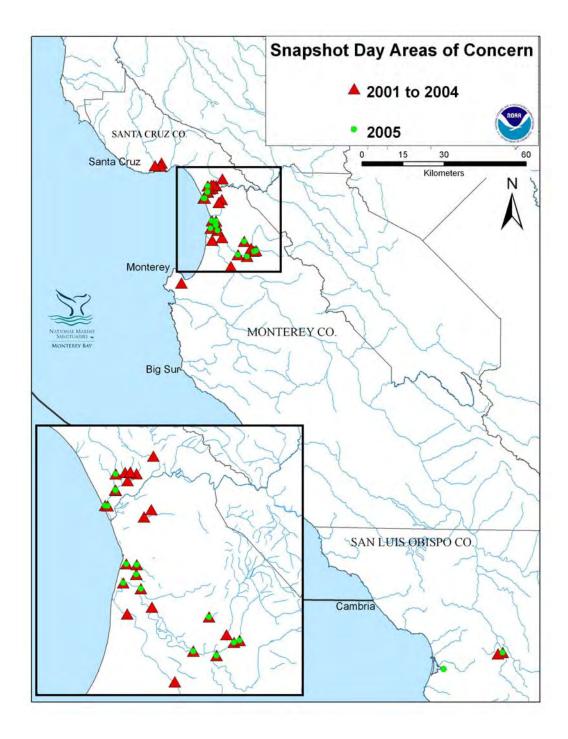
Areas of Concern

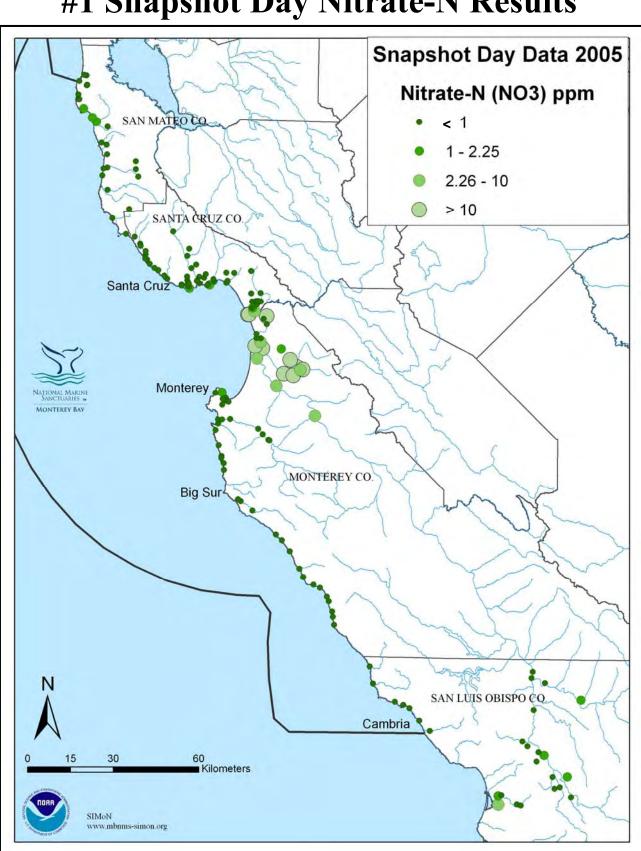
Stations that exceed three or more of the seven parameters are identified as "Areas of Concern". This directs attention to a subset of water bodies that may require additional monitoring or follow up. This water monitoring model has been implemented over the last six years and provides trend information as well as highlights persistent problem areas.

This year, eighteen Areas of Concern were identified on the Central Coast. In 2004, there were also 18 Areas of Concern, up from 14 identified in 2003, 11 identified in 2002, and 17 identified in 2001. Twelve of the 18 Areas of Concern in 2005 were also Areas of Concern in 2004. Of the 34 stations identified as Areas of Concern during the previous five Snapshot events – Los Osos Creek is new this year, nine were Areas of Concern twice, eight were Areas of Concern three times, five were Areas of Concern four times and Alisal Creek was an Area of Concern every year (see Figure 3).

The 2005 Central Coast Areas of Concern were compared with California's list of impaired water bodies (2002 "303(d) list") and the 2005 proposed revisions. The 303(d) list was generated by the Regional and State Water Quality Control Board and identifies impaired waterways in the state of California. The methodology for this listing is available on the State Board web site (www.swrcb.ca.gov).

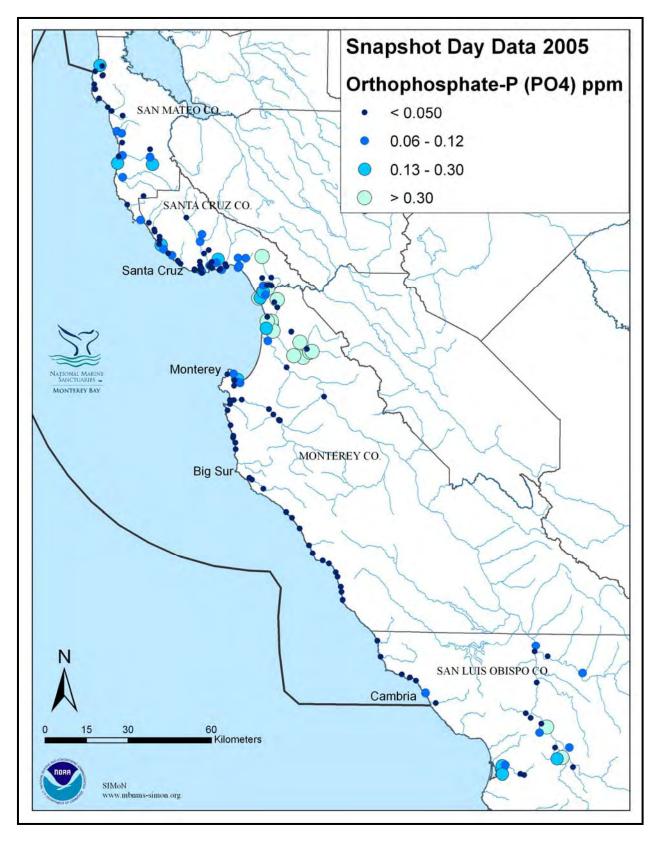
This comparison between the Snapshot Day sampling events and the 303(d) list is intended to compare Snapshot Day results with other studies to determine whether the results are similar and also to identify areas where further investigation is warranted. Of the18 Areas of Concern identified in 2005 on the Central Coast, all but four (77%) were on the 2002 303(d) list. Two of the waterbodies, Natividad Creek and Santa Rita Creek in Salinas, are proposed to be added to the revised 303(d) list for excessive nitrate concentrations. Trout Creek in San Luis Obispo and Harkin Slough, which have been areas of concern for at least two years, are not listed. For those waterbodies that are listed on the 303(d) list, the Snapshot Day results do correlate well with the impairments for which they are listed.

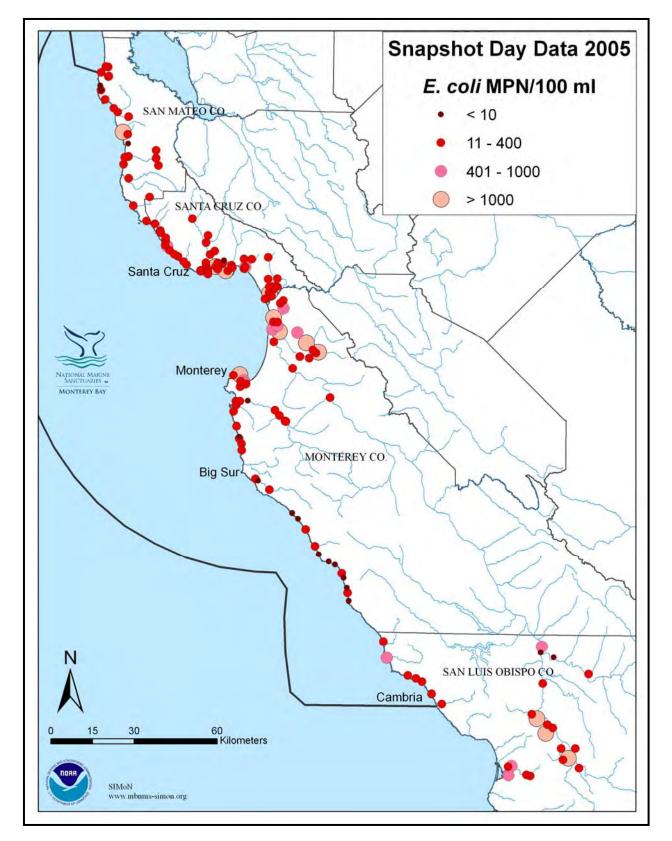




#1 Snapshot Day Nitrate-N Results

#2 Snapshot Day Orthophosphate-P Results





#3 Snapshot Day E. coli Results

Conclusion

Based on the results from this year's event, the number of exceedances for water temperature, dissolved oxygen, turbidity, *E.coli*, nitrate and orthophosphate were down this year compared to 2004. Eighty-six of the sites (53%) did not have a single exceedance for any of the water quality objectives, which is almost exactly the same as in 2004. Many of the water bodies along the San Mateo Coast and Big Sur Coast were, overall, in very good condition. In contrast, the water bodies in more urban and agricultural areas seem to be more impacted by the surrounding land use.



Dave Parrara collecting water from the Reclamation Ditch in Salinas. Photo by Lisa Emanuelson

There were 18 Areas of Concern in both 2004 and 2005. Of the 18, twelve were identified as Areas of Concern both years and are located between the Watsonville Slough and Lower Salinas River. It is important to acknowledge that there is an inherent bias toward the identification of Areas of Concern that are impacted by agriculture. This is partly because of an experimental design that is biased towards water quality parameters that represent the major issues on the central coast (ie. nutrients and turbidity), and partly based on the greater ability of citizen groups to monitor certain parameters (ie. water temperature, turbidity and dissolved oxygen) over other contaminants (ie. metals, oil and grease). The number of sites defined as Areas of Concern within agricultural areas is also influenced by the strong

agriculture presence on the central coast. Fortunately, many efforts are currently underway to address agriculture impacts to local rivers and streams. It is possible that the fewer number of exceedances that were detected during this event may be a result of the best management practices (BMPs) being implemented by the agriculture community and local resource agencies. However, in general, the AOCs indicated that additional work and efforts are required to improve water quality.

There are other monitoring sites that were not Areas of Concern but somehow stood out from the other sites. These locations include:

- Rinconada Creek in the upper Salinas River watershed had the lowest pH value of 5.0
- Waddell Creek in Santa Cruz County had the highest turbidity value of 30 JTU.
- Graves Creek in San Luis Obispo reported an *E. coli* concentration of 4,352 MPN/100 ml
- *E. coli* concentrations in three urban drainages in Monterey and Pacific Grove ranged from 816 to >2,420 MPN/100 ml
- Purisma Creek was the only site in San Mateo County to exceed the water quality objective for *E. coli* with a value of 3,076 MPN/100 ml
- The nutrient values for Calera Creek in San Mateo were much lower this year than in the previous two Snapshot Day events. The orthophosphate results went from 2.72 mg-P/l in 2004 and 1.6 mg-P/l in 2003 to 0.15 in 2005.

Overall, water quality conditions seemed better for the 2005 Snapshot Day event than previous years. The number of exceedances for orthophosphate, *E. coli* and dissolved oxygen all dropped by about 8%. For sites primarily in San Mateo and Santa Cruz counties, the turbidity exceedances dropped by 12%.

This one day event continues to demonstrate the value of citizens collecting important water quality information. They are able to document water quality impairments and consistent results over the time span of six years. We are grateful to all of the people that volunteered their time for this event! П

Attachment 1 Snapshot Day Participants

Hub Participants	
Anne Jensen	
Bridget Hoover	
Debie Chirco-Macdonald	
Donna Meyer	
Erica Burton	
Gerry Doan	
Holly Price	
John Laird, 27th Dist. Assemblyman	
Kirsten Liske	
Kelley Higgason	
Mike Rotkin, Mayor, City of Santa Cruz	
Rachel Saunders	
Tamara Doan	
Team Leader	Team Members
Ann Kitajima	Annie Gillespie
Annie Schmidt	John Fischer, Lauren Clayton, Susan Lynch, Frank Hicks
Becky Stamski	Carissa Carter, Ty Kennedy-Bowdoin
Ben Bouldin	Greg Sanders, Pat Bouldin
Bobby Jo Close	Philip La Follette
Brenda Donald	Deborah Hirst, Susan Danielson, Alfield Donald
Breta Holgers	Gregg Kerlin, Laura Kahn
Carey Cooper	Julia Davenport, Kyrrha Sevco
Chantile Royer	CeCe Bayer, Magali Blanco
Cheryl Lambert	Sonya Morrison
Chris Berry	Matt Baldzikowski, George McMenamin
Chris Coburn	Rosalie Hackett
Chuck Kozak	
Claude Albanese	Art Chapman, Ken Eberle
David Norris	Jeff Johnson, Kim Ha
DJ Funk	Marti Johnson, Adriana Morales
Don Hoover	Tera Hoover
Ed Niland	Julia Niland

Attachment 1 Snapshot Day Participants cont.

Team Leader	Team Members
Gabriela Carvalho	Timba Harris
Gary Smith	Alejandro Valencia, Susan Ferrel
Gregg Kerlin	Chantell Royer
Huff McGonigal	Shane Coker, Summer Rogers
Jackie McCloud	Dave Fichtner, Rachel Niederer
Jaime Lien	Jim Patterson
Jason Nachamkin	Clive Sanders, Hal Titus, Karen Finlen
Jeff Hayes	Talia Reyes, Jan Reyes
Jonathan Toal	Jim Spaulding
Julia Villaire	Tracy Maxwell
Justin Dennis	Jenine Beecher, Lilian Dennis
Justin Morgan	Anne Jurek
Kelly Chapin	Art Evjen, Fran Horvath
Ken Ekelund	Steve Mack, Dennis Long
Kurt Merg	
Lisa Emanuelson	Dave Parara
Loro Paterson	Andrea Zurr
Maris Sidenstecker	Enid Irwin, Karen Harris
Mark Meibeyer	Stacey Couture, Sam Couture, Jeff Kwasny
Mary Scannell	Shane Anderson
Melanie Lindberg	Julianne Rhodes, Duncan Lindberg
Michelle Parker	Kristy Pannke
Michelle Roest	Lucille Bosco, Carole Adams, Phil Adams
Mike Lacey	Bob Croyle
Natalie Zayas	Heather Cott, Edward Murray, Jonathan Lepe, Ana Martinez
Neil Panton	Mary Panton, Julien Gulmert, Suzana Gulmert
Rachael Peavler	Jason Parke
Rachel Garrett	Robin Kimmy
Robert Frischmuth	Denyse Frischmuth, Louise Pearse, Vicky Pearse, Warren Yogi
Robin Lee	Claudia Pineda, Brad Snook, Jenny Snook
Sarah Bally	Kelly Young
Tom LaHue	Devi Tong, Brian Tong

Attachment 2

Watershed Mydrologic Unit ID: Watershed Station (Site) ID: Watershed Group Name: Watershed Group Name: Watershed Group Name: Watershed Group Name: Image: Comparison of the station of the stat	Index Image: service of the service of th					DOC_ID# :						
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Attachment 3. Results by County/Station (Yellow represents exceedance of WQOs)

County.	StationalD	Waterboody Name	Collection Three	Elow Discharge	AirTemp deg C)	WaterTe mp (dig C)	Conduct- (vity (u5)	ин	Dissolved Oxygen (hymi)	Trans- panency (cm)	Tues bidity (JID)	NO3-N (mg-NL)	P04-P (mg-P1)	Total coliforie (MPN 160 m0	E. coli (MPN: 100mi)
San Mateo	202-MARTI-11	Martin Credit	11:00 AM	moderate (<5 gal/sec)	14.5	12.5	240	80	8.6		5.0	0,26	+0.01	833	- 10.
San Maten	202-TUNIT-11	Tuntas Crem	10.06.AM	muderate (<5 gal/sec)	14.0	12.0	570	日白	10.5		5.0	<0.01	= 0.01	110	10
San Mateo	202-MONTA-11	Montara Cireek	12-12 PM	moderate (<5 gal/sec)	17.0	14.0	270	60			150	110	+0.01	591	10
San Mateo	202-SANPE-13	San Pedro Creek	9.44 AM	moderate (<5 gal/sec)	18.0	14.0	410	7.5	0.0		5.0	0.38	< 0.01	359	20
San Mates San Mateo	202-MONTA-12 202-SANGR-14	Montara Creek San Gregorio Creek	12:45 PM 10:14 AM	moderate (<5 galisec) moderate (<5 galisec)	17.0.	15.0	290	60 75	72	122.0	50.0	0.11	10.0 ->	201	41
San Mateo	202-GAZOS 11	Gazos Credi	10 15 AM	moderate (<5 gal/sec)	16.0	12.0	-400	8.5	02	120.0	-	0.08	= 0.01	231	80
San Maten	202-GAZOS-13	Gatos Creel	1.15 PM	Figh (=5 gal/sec)	16.0	120	300	63	72	120.0		<0.01	< 0.01	197	96
San Mateo	104-NEWYE-11	Ano Alumid Creek	12:25 FM	modératik (<5 gal/sec)	10.8	15.0	360	70	7.0		.70 0	0.35	0.09	2098	- 97
San Mater	202-FESCA-11	Percoperty Creek	2:00 PM	high (=5 gal/sec)	15.0	14.5	500	相当	5.8	120.0		0.16	83.0	432	98
San Mateo	202-FRENC-11	Ftetactman's Cremi	10 15 AM	trigh (=5 gav/and)	16.0	12.4	213	75	10.4	45.0		1.14	+ 0 D1	639	109
San Mateo	202-ALPIN-11	Alpine Creek:	12:30 PM	moderate (<5 gal/cec)	13.0	12.0	950	75	10.0	122.0		0.14	0.15	689	109
Sar Maten	202-CALER-12	Calera Creeli	12.03 PM	not recorded	19.0	15.0	510	15	0.0		50	0.24	0.16	1401	110
San Mateo	202-5ANSR-11	San Gregorio Creek:	11:07 AM	stagnant	15.5	15.5	15/00	75	04	89.2	10.0	0.05	=0.01	216	110
San Materi San Materi	202-LOET-11 202-PDMPD-11	Lobizis Creek	11.18.AM	muderate (<5 galisec)	14.0	13.0	690.	84	12.2	38.1	10.0	0.15	0.10	863	121
San Mateo	202-SANSR-12	Pomponia Cress Sian Grégoria Creek	9.58 AM	high (>5 gal/sec)	15.0	12.5	1200	70	0.0	120.0	-	0.10	0.09	594	135
Sav Materi	202-DENN#11	Devoision Cresil	9.45 AM	Figh (#5 gal/rec)	18.0	13.2	101	7.0	0.0	120.0	-	2.20	< 0.01	3448	125
San Mateo	202-PILAR-11	Planctos Creek	10.59 AM	high (>5 gav/sec)	14.0	121	260	75	9.5	80 0		1.50	- 0 0T	3078	218
San Madeo	202-SANPE-12	Som Pedro Creek	10.43 AM	high (>6 gal/rec)	15.0	12.0	2200	2.0	19,4		5.0	0.18	2 0.01	1954	228
San Maten	202-CALER-11	Carera Crest	11-43 AM	mokie (<1 quart/sec)	16.0	14.0	380	7.5	B.fl		5.0	0.31	< 0.01	1835	278
San Mateo	202-SANPE-11	San Pedro Creek	11:15 AM	modératir («5 galfsec)	21.0	15.0	430	75	0.0		0.0	0.39	+ 0.01	2491	387
San Mateu	202-LAHON-11	La Hunda Creek	11:67 AM	moderate (<5 gal/sec)	15.0	12.0	\$00	7.5	10.2	122.0		0.10	0.05	786	345
San Mateo	202-MILLC-11	Mill Creek	11:30 AM	high (>5 ga/sec)	15.5	12.3	510	75	75	120.0		0.25	< 0,01	842	393
San Mateo	202-PURIS-11	Purisma Creek	12:02 PM	moderate (<5 gal/sec)	16.0	14.0	560	8.2	9.4		10.0	0.15	0.11	3076	3076
Santa Cruz	304-APTOS-21	Aptos Creek	10:00 AM	high (>5 gal/sec)	11.9	11.5	590	7.5	10.4		0.0	< 0.01	0.06	663	41
Santa Cruz Santa Cruz	304-APTOS-22 304-APTOS-23	Aptos Creek	11:10 AM 10:45 AM	high (>5 gal/sec) biob (>5 gal/sec)	16.3	12.9	550	7.5	9.4		0.0 5.0	< 0.01	0.06	1376 2613	85
Santa Cruz Santa Cruz	304-AP105-23 304-ARANA-21	Aptos Creek Arana Creek	1:30 PM	high (>5 gal/sec) moderate (<5 gal/sec)	17.7	15.4	470	7.0	9.0		5.0	0.07	0.08	7270	259 327
Santa Cruz	304-ARANA-22	Arana Creek	10:59 AM	moderate (<5 gal/sec)	15.5	12.2	310	7.0	9.6		0.0	0.11	0.15	932	10
Santa Cruz	304-ARROY-21	Arroyo Seco Creek	2:20 PM	trickle (<1 guart/sec)	18.0	18.0	400	6.8	0.0	122.0		0.03	< 0.04	1860	121
Santa Cruz	304-ARROY-22	Arroyo Seco Creek	1:05 PM	trickle (<1 guart/sec)	18.9	20.2	490	7.5			0.0	0.61	0.10	5475	63
Santa Cruz	304-ARROY-23	Arroyo Seco Creek	11:50 AM	trickle (<1 quart/sec)	15.9	17.0	540	7.5			0.0	1.71	< 0.04	7701	52
Santa Cruz	304-BRANC-21	Branciforte Creek	12.00 PM	moderate (<5 gal/sec)	18.0	19.0	40	7.0	10.0	122.0		0.38	0.07	4884	364
Santa Cruz	304-BRANC-23	Branciforte Creek	11:05 AM	moderate (<5 gal/sec)	17.0	15.0	400	7.0	9.1	122.0		0.40	< 0.04	2419	99
Santa Cruz	304-CARBO-21	Carbonera Creek	11:28 AM	moderate (<5 gal/sec)	16.8	15.0	30	7.0	8.2	122.0		0.66	<0.04	2909	171
Santa Cruz	304-CORCO-21	Corcoran Lagoon	1:40 PM	trickle (<1 quart/sec)	20.0	20.0	200	8.0	7.4	54.1		0.11	< 0.04	2419	2419
Santa Cruz	304-CORCO-22	Corcoran Lagoon	12:40 PM	stagnant	16.5	19.0	1400	7.5	7.2	42.0		88.0	< 0.04	24192	24192
Santa Cruz	304-FERRA-21	Ferrari Creek	12:25 PM	moderate (<5 gal/sec)	17.2	14.4	400	7.0	8.4	120.0	0.0	0.05	0.11	4884	345
Santa Cruz Santa Cruz	304-LAGUN-21 304-LIDEL-21	Laguna Creek Lidell Creek	10:40 AM 1:46 PM	moderate (<5 gal/sec) moderate (<5 gal/sec)	15.6	12.5	350	7.0	8.7 9.3	120.0	0.0	0.08	< 0.04	1421 6488	197 354
Santa Cruz	304-LITTL-21	Little Creek	12:15 PM	moderate (<5 gal/sec)	15.0	12.5	300	6.5	3.3	46.5		0.04	< 0.04	601	20
Santa Cruz	304-MAJOR-21	Majors Creek	11:05 AM	moderate (<5 gal/sec)	17.1	12.0	310	7.0	10.5	40.0	0.0	0.11	< 0.04	1313	240
Santa Cruz	304-MOLIN-21	Molino Creek	10:45 AM	moderate (<5 gal/sec)	16.1	13.5	200	7.3	8.4	122.0		0.72	0.12	4108	571
Santa Cruz	304-MOORE-23	Moore Creek	2:00 PM	trickle (<1 quart/sec)	16.5	15.0	400	5.5		91.8		0.30	0.05	2613	341
Santa Cruz	304-MOORE-24	Moore Creek	11:00 AM	trickle (<1 quart/sec)	16.8	12.3	470	7.0			5.0	0.08	< 0.04	3873	697
Santa Cruz	304-MOORE-25	Moore Creek	11:20 AM	trickle (<1 quart/sec)	15.0	14.0	400	7.5	9.2		0.0	0.14	0.04	3076	86
Santa Cruz	304-ROBSC-21	Rob's Creek	11:00 AM	trickle (<1 quart/sec)	18.0	15.0	400	7.0	5.2	122.0		1.27	0.07	8664	328
Santa Cruz	304-SANLO-21	San Lorenzo River	12:35 PM	moderate (<5 gal/sec)	17.0	15.0	390	7.5	10.0		5.0	< 0.01	< 0.04	259	2613
Santa Cruz	304-SANLO-22	San Lorenzo River	10:35 AM	high (>5 gal/sec)	18.0	14.0	1810	7.5	9.2		5.0	< 0.01	< 0.04	1515	122
Santa Cruz Santa Cruz	304-SANLO-26 304-SANLO-27	San Lorenzo River San Lorenzo River	10:54 AM 11:50 AM	high (>5 gal/sec) high (>5 gal/sec)	16.5	13.3	340	6.5	13.3			0.12	< 0.04	1607	187 231
Santa Cruz Santa Cruz	304-SANU-21	San Vicente Creek	1:10 PM	high (>5 gal/sec)	16.8	13.7	300	7.3	11.4	120.0		0.09	< 0.04	601	52
Santa Cruz	304-SCOTT-21	Scott Creek	11:45 AM	moderate (<5 gal/sec)	15.0	12.0	200	6.5		46.5		0.06	< 0.04	631	120
Santa Cruz	304-SCOTT-22	Scott Creek	11:21 AM	moderate (<5 gal/sec)	16.0	12.0	200	6.5		46.0		< 0.01	< 0.04	435	73
Santa Cruz	304-SCOTT-23	Scott Creek	12:45 PM	moderate (<5 gal/sec)	16.5	14.0	200	6.0		46.5		0.07	< 0.04	419	41
Santa Cruz	304-SCOTT-24	Scott Creek	1:05 PM	moderate (<5 gal/sec)	17.0	14.0	200	6.0		46.5		< 0.01	< 0.04	404	31
Santa Cruz	304-SOQUE-21	Soquel Creek	12:45 PM	high (>5 gal/sec)	17.9	14.1	590	7.5	10.0		5.0	< 0.01	< 0.04	1789	203
Santa Cruz	304-SOQUE-22	Soquel Creek	11:00 AM	stagnant	16.1	14.1	650	7.5	9.9		5.0	< 0.01	< 0.04	1281	121
Santa Cruz	304-VALEN-21	Valencia Creek	12:10 PM	high (>5 gal/sec)	17.5	12.8	530	7.0	9.8		0.0	0.05	0.11	1274	20
Santa Cruz	304-VALEN-22	Valencia Creek	11:30 AM	high (>5 gal/sec)	16.4	13.4	480	7.0	9.7		15.0	0.33	0.10	4611	496
Santa Cruz	304-WADDE-22	Waddell Creek	1:45 PM	moderate (<5 gal/sec)	22.0	15.0	270	7.0	10.0		30.0	< 0.01	< 0.04	789	31
Santa Cruz	304-WILDE-21	Wilder Creek	11:50 AM	moderate (<5 gal/sec)	17.0	13.3	410	7.0	10.6		0.0	0.19	< 0.04	1565	74
Santa Cruz Santa Cruz	304-WILDE-22 304-ZAYAN-21	Wilder Creek Zayante Creek	1:05 PM 12:35 PM	moderate (<5 gal/sec) high (>5 gal/sec)	17.7	14.0	410	6.8	10.6		0.0	0.17	< 0.04	1313	158 158
Santa Cruz Santa Cruz	304-ZAYAN-21 304-ZAYAN-22	Zayante Creek Zayante Creek	12:35 PM 12:45 PM	high (>5 gal/sec)	20.0	12.8	490	7.0	10.8			0.09	0.07	988	63
Santa Cruz	305-BEACH-21	Watsonville Slough	11:15 AM	trickle (<1 guart/sec)	18.0	21.0	3200	8.0	7.8	17.0		11.70	0.07	24192	173
Santa Cruz	305-CORRA-21	Corralitos Creek	11:11 AM	moderate (<5 gal/sec)	16.0	13.0	40	7.5	8.4	120.0		0.99	< 0.04	4884	218
Santa Cruz	305-CORR4-22	Corralitos Creek	12:48 PM	moderate (<5 gal/sec)	16.5	12.5	40	7.5	7.6	120.0		0.07	0.68	2909	74
Santa Cruz	305-HARKI-21	Harkins Slough	2:17 PM	stagnant	20.0	23.0	300	7.0	6.6	21.2		0.05	0.07	1153	20
Santa Cruz	305-HARKI-22	Harkins Slough	12:35 PM	stagnant	18.5	19.0	500	6.0	1.8	35.0		0.25	0.16	24192	51
Santa Cruz	305-HARKI-23	Harkins Slough	1:41 PM	trickle (<1 quart/sec)	18.5	15.8	200	7.0	9.8	74.0		0.31	< 0.04	3654	148
Santa Cruz	305-PAJAR-21	Pajaro River	10:08 AM	moderate (<5 gal/sec)	16.0	17.0	1200	7.5	8.2	42.2		4.65	0.10	2602	119
Santa Cruz	305-STRUV-21	Struve Slough	11:20 AM	trickle (<1 quart/sec)	19.0	20.0	250	7.0			5.0	< 0.01	< 0.04	10462	41
Santa Cruz	305-STRUV-22	Struve Slough	1:40 PM	moderate (<5 gal/sec)	27.0	21.0	330	7.5			5.0	0.06	0.36	1112	31
		Watsonville Slough	12:30 PM	trickle (<1 quart/sec)	27.0	19.0	320	7.5			5.0	< 0.01	< 0.04	2187	74
Santa Cruz	305-WATSO-21				40.0	00.0				45.0			0.00	2444	40000
	305-WATSO-21 305-WATSO-22 305-WATSO-23	Watsonville Slough Watsonville Slough	12:55 PM 11:38 AM	moderate (<5 gal/sec) trickle (<1 quart/sec)	18.5	20.0	600 3200	7.0	5.8 8.0	45.0 23.8		1.48	0.67	24192 24192	4611 146

Attachment 3. Results by County/Station cont. (Yellow represents exceedance of WQOs)

County	Stationally	Waterbody Name	Collection Time	Flow Discharge	AirTemp dey ()	Waterfe muridey Q	Conduct- ivity (n3)	pet	Disantred Oxygen (ppm)	Trans- parency (cm)	Tur- biday LITUR	NQ3-N (ING-NIL)	PO4-P (myPL)	Total coliforni (RIFN 144 MI)	É. coll (A#% 104ml)
Mananiny	306-ELKHO-31	Elition Slough	12:00 PM	not recorded	21.0	19.0	>1990	7.5	60	93.9	-	B12	#0.01	1730	1918
Monterey	306-EU/H/3-32	Eknom Skugh	11.26 AM	trickle (<1 guart/sec)	22.0	21.0	16200	0.0	110	156		×0.05	<0.01	26196	73
Monterey.	306-EL+1+0-33	Ekhom Skough	12,40 PM	high (>5 gal/sec)	21.0	19.5	>1990	0.8	7.0	98.0		< 0.05	< 0.01	2420	1661
Monterey	305-EUKHO-34 305-MOROC-31	Elvtorn Situgh	10:36 AM 10:45 AM	moderate (<5 gal/sec)	23.5	18.0	1500	75	9.0	121.0		E 70	2.48	2420	400
Montainey Montainey	306-MOROC-37	Moro Con Slough Moro Con Steugh	12:00 PM	stagrant moderate (<5 gal/sec)	17.5	24.0	15400	90	15.5	6.0		011	1.10	3419E	13
Monterey	306-MOROC-33	Mora Coja Staugh	12.52 PM	troderate (<5 gal/sec)	215	30.0	15800	9.5	12.5	6.0	7	= 0.05	0.49	34196	41
Monterey	307-CARME-33	Carnel River	titi 45 AM	high (>5 gal/arc)	17 A	13.4	280	73	10.0	120.0		< 0.05	=0.0T	272	20
Monterey	337-CARME-35	Carriel River	02:211 PM	fligh (>5 gal/circ)	17.0	14.7	270	7.3	10.0	120.0		0.05	<0.01	435	30.4
Monthiney	307-CARME-38	Cannel Royer	10 48 AM	high (15 galline)	28.0	14.0	200	7.5	8.0	120.0		0.0%	= 0.01	770	28
Monterey	307-CARME-37	Carriel River	11.20 AM	high (>5 gal/tec)	20.0	15.0	370	7.5	9.0	120.0	-	0.07	<0.01	687	10
Monterey.	307-CARME-38	Carriel River	12:01 FM	nigh (>5 gal/sec)	18,0	15-0	.330	7.0	0.8	120.0		0.05	< 0.01	1985	28
Monteney Monteney	307-CARME-39 307-GARZA-31	Garbas Creek	10-20 AM 11-45 AM	high (>5 gal/sec) high (>5 gal/sec)	150	15.0	570 190	75	10.0	117.0		0.05	< 0.01	214	376
Monterey	108-BOCR-11	Big Creek	TISSAM	high (+5 gal/sec)	19.5	12.8	330	7.5	10.0	120.0		0.05	<0.01	196	11
Monterey	308-DGSU-81	Big Sur River	MA DE DI	high (>5 gal/sec)	22.0	13.0	210	70	12.0	117.0		<0.05	=0.0T	225	40
Minterey	388-BIGSU-32	Eig Sur River	11 05 AM	moderate (<5 gal/sec)	24.0	12.0	200	7.0	80	1170		= 0.05	<0.01	172	- B
Monteriey	305-DAMC-31	Dara Creek	10.54 AM	moderate (<5 gal/cec)	15.0	327	420	7.5	10.0	120.0		< 0.05	<0.01	112	2
Monterey	306-DOI (D-31	Doud Creek	10:50 AM	modenate (<5 galfred)	18.0	19.0	248	7.0	8.0	120.0	_	0.25	= 0.01	172	- 19
Monterey	308-04RRA-31	Garrapata Creek	11.45 AM	high (>5 gal/sec)	153	11.2	220	7.0	112	117.0		0.00	< 0.01	127	- 34
Monterrey.	308-H0TSF-31	Hot Spiritgs Creek	1-ID PM	high (>5 gal/sec)	21.0	14.0	290	7.5	0.0	117.0	-	0.00	< 0.01	021	19
Monterey	30S-LIMEK-31	Limekin Creek	10:34 AM	high (>5 gal/sec)	15.8	13.5	360	7.5	10.0	120.0		0.13	< 0.01	179	1 E
Monterey Monterey	305-MALPA-31 308-MCVW/V-31	Malpasa Creek McWay Canyon	12 24 FM	moderate (<5 gal/sec) patrics calleer1	173	12.4	290	70	10.6	117.0		0.02	< 0.01	129	91 10
Monterey Monterey	308-MLLC-31	Mil Cresc	12-40.PM	high (>5 galliter.) high (>5 galliter.)	14.9	13.1	400	7.5	50	120.0		0.24	<0.01	225	29
Monterey	308-PALOC-31	Palo Colorado Cyn.	10:15 AM	high (>5 gal/sec)	15.0	12.0	420	7.5	10.0	48.0		0.06	< 0.01	1414	122
Monterey	308-PARTI-31	Partington Canyon	12:10 PM	high (>5 gal/sec)	20.0	15.0	270	7.0	60	117.0		< 0.05	< 0.01	61	4
Monterey	308-PLASK-31	Plaskett Creek	8:59 AM	moderate (<5 gal/sec)	13.7	12.3	360	7.5	8.0	120.0		< 0.05	< 0.01	365	16
Monterey	308-PREWI-31	Prewitt Creek	9:24 AM	high (>5 gal/sec)	15.0	12.6	290	7.0	9.0	120.0		< 0.05	< 0.01	517	6
Monterey	308-ROCKY-31	Rocky Creek	10:38 AM	high (>5 gal/sec)	13.8	10.5	210	7.0	11.0	74.0		0.05	< 0.01	160	44
Monterey	308-SANJO-31	San Jose Creek	11:03 AM	stagnant	21.5	14.0	220	7.0	7.0	91.0		0.09	< 0.01	236	68
Monterey	308-SOBER-31	Soberanes Creek	11:40 AM	high (>5 gal/sec)	20.0	14.0	270	7.0	6.0	112.0		0.13	< 0.01	488	28
Monterey	308-SYCAM-31	Sycamore Canyon	11:40 AM	moderate (<5 gal/sec)	21.0	15.0	240	7.0	10.0	120.0		< 0.05	< 0.01	186	33
Monberey Monberey	308-VICEN-31 308-WILDC-31	Vicente Creek Wild Cattle Creek	9.48 AM	high (>5 gal/sec) moderate (<5 gal/sec)	15.8	12.6	320	7.5	10.0	120.0		< 0.05	< 0.01	236	1
Monterey	308-WILLO-31	Willow Creek	8:11 AM	high (>5 gal/sec)	15.0	12.8	310	7.0	9.0	120.0		< 0.05	< 0.01	517	5
Monterey	309-ALISA-32	Alisal Slough	10:30 AM	trickle (<1 quart/sec)	19.3	17.7	1300	7.0	8.0	12.0		27.30	1.17	24196	261
Monterey	309-ASILO-31	Asilomar	11:37 AM	moderate (<5 gal/sec)	16.0	17.0	1630	7.0	8.0			0.48	< 0.01	2420	276
Monberey	309-CENTR-31	Central and 13th	11:05 AM	moderate (<5 gal/sec)	18.5	15.0	1220	7.5	6.0			1.20	0.06	>2420	>2420
Monterey	309-DOLPH-31	Dolphin Brook	10:20 AM	moderate (<5 gal/sec)	14.8	14.1	1100	7.0	8.0	120.0		1.00	0.16	2420	921
Monterey	309-GABIL-31	Gabilan Creek	11:10 AM	moderate (<5 gal/sec)	17.7	18.4	1300	7.0	8.8	120.0		28.60	< 0.01	2420	24
Monterey	309-LIBRA-31	Storm Drain	11:22 AM	moderate (<5 gal/sec)	18.1	14.2	1300	7.0	8.0	120.0		0.40	0.08	2420	816
Monterey	309-MAJOR-31	Major Sherman	12:00 PM	moderate (<5 gal/sec)	16.3	13.3	1200	7.0	8.0	120.0		0.22	0.08	2420	260
Monterey	309-NATIV-31	Natividad Creek	11:35 AM	trickle (<1 quart/sec)	18.2	16.7	1120	6.5 7.0	32	24.0		7.80	0.53	2420	278
Monterey Monterey	309-RECDI-31 309-SALIN-31	Reclamation Ditch Salinas River	10:46 AM 10:27 AM	trickle (<1 quart/sec) moderate (<5 gal/sec)	21.0	21.0	1200	7.5	7.0	46.0		5.00	0.09	24196 1300	45
Monberrey	309-SALIN-32	Salinas River	12:30 PM	moderate (<5 gal/sec)	20.3	21.6	720	8.0	8.0	21.0		3.00	< 0.01	980	28
Monterey	309-SALIN-33	Salinas River	12:50 PM	moderate (<5 gal/sec)	18.1	18.6	710	75	8.0	35.5		3.00	< 0.01	1553	23
Monterey	309-5KYLI-31	Skyline Creek	12:57 PM	trickle (<1 quart/sec)	17.4	21.3	500	7.0	9,0	19.2		0.18	< 0.01	2420	116
Monterey	309-SRITA-31	Santa Rita Creek	12:00 AM	moderate (<5 gal/sec)	19.6	22.8	1010	7.5	8.6	8.4		25.10	0.75	>24196	1664
Monterey	309-TEMBL-31	Tembladero Creek	12:46 PM	moderate (<5 gal/sec)	20.3	21.5	1990	8.0	12.2	8,4		27.30	0.58	24196	341
Monterey	309-TEMBL-32	Tembladero Slough	10:30 AM	high (>5 gal/sec)	18.2	20.3	1140	75	7.6	19.0		20.60	0.13	2420	488
Monterey	309-TEMBL-33	Tembladero Slough	12:15 PM	high (>5 gal/sec)	18.8	19.0	1650	7.5	8.7	8.8		28.40	0.53	2420	1414
Monterey Monterey	309-TEMBL-34 309-UPPER-31	Tembladero Slough	8:30 AM 12:04 PM	moderate (<5 gal/sec)	18.9	15.4	1270	7.5	10.6	76.0 16.6		2.00	< 0.01	2420 2420	461 1203
		Upper Natividad Ck	10:25 AM	moderate (<5 gal/sec)		-	650			10.0		0.10	< 0.01	143	
Monterey San Luis Obispo	309-VETER-31 309-ATASC-41	Veteran's Park Atascadero Creek	9:37 AM	stagnant moderate (<5 gal/sec)	20.0	15.0	750	6.5	50 90	122.0		0.10	0.07	24192	17
San Luis Obispo	309-ATASC-42	Atascadero Creek	7:42 AM	moderate (<5 gal/sec)	14.0	12.0	500	6.0	9.0	122.0		< 0.05	0.01	1162	20
San Luis Obispo		Graves Creek	9:06 AM	moderate (<5 gal/sec)	13.0	13.0	820	6.5	8.9	122.0		0.20	0.03	11198	4352
San Luis Obispo		Paso Robles Creek	7:48 AM	high (>5 gal/sec)		14.2	746	7.9	8.0	60.0		0.79	0.02	3448	345
San Luis Obispo		Rinconada Creek	10:15 AM	moderate (<5 gal/sec)			710	5.0	8.0		5.0	0.40	0.03	1989	203
San Luis Obispo	309-SALIN-44	Salinas River	10:07 AM	moderate (<5 gal/sec)	17.5	15.5	760	6.0	10.2	122.0		< 0.05	0.07	12996	878
San Luis Obispo	309-SALIN-45	Salinas River	11:00 AM	moderate (<5 gal/sec)		10.7	540	60	8.0	00.0	5.0	< 0.05	< 0.01	1439	195
San Luis Obispo San Luis Obispo	309-SALIN-48	Salinas River Salinas River	9:20 AM	high (>5 gal/sec)		16.5	853 760	8.2	8.0	60.0 60.0		2.15	0.31	1918 1956	109
San Luis Obispo		Sainas Hiver Santa Margarita Creek	8:42 AM	high (>5 gal/sec)	18.0	14.0		8.2	9.7	122.0			0.05	5794	350
San Luis Obispo San Luis Obispo	309-TROUT-41	Trout Creek	10:52 AM 10:35 AM	moderate (<5 gal/sec) moderate (<5 gal/sec)	10.0	14.0	650 620	60	9.7	122.0	5.0	0.20	0.33	3448	1223
San Luis Obispo	309-YERBA-41	Yerba Buena Creek	9:15 AM	moderate (<5 gal/sec)			750	7.0	60		10.0	0.10	0.19	8664	389
San Luis Obispo		rroyo del Puerto Cree		moderate (<5 gal/sec)	15.8	16.1	1300	8.0	10.0	112.0		< 0.1	< 0.01	4108	189
San Luis Obispo		rroyo de la Cruz Cree		moderate (<5 gal/sec)	16.2	17.3	500	7.5	7.8	119.0		< 0.1	< 0.01	1333	512
San Luis Obispo	310-CARPO-41	San Carpoforo	9:40 AM	high (>5 gal/sec)	15.9	14.7	500	7.5	9.8	119.0		< 0.1	< 0.01	465	31
San Luis Obispo	310-DAL-41	Dairy Creek	8:20 AM	moderate (<5 gal/sec)	17.5	13.8	730	7.4	10.2			< 0.1	0.04	3654	350
San Luis Obispo	310-LAGUN-41	Arroyo Laguna	12:05 PM	moderate (<5 gal/sec)	19.4	19.3	>1990	8.0	8.8	120.0		< 0.1	0.03	5794	278
San Luis Obispo		Little Pico Creek	10:40 AM	trickle (<1 quart/sec)	15.7	14.3	720	7.5	7.0	122.0	<u> </u>	< 0.1	0.03	1515	389
San Luis Obispo	310-PENN-41	Pennington Creek	8:00 AM	moderate (<5 gal/sec)	17.0	12.7	630	7.7	9,9	400.0		0.20	0.05	2098	148
San Luis Obispo San Luis Obispo	310-SANSI-41	San Simeon Creek	9:40 AM	trickle (<1 guart/sec)	13.0	13.6	700	7.5	<u>62</u> 10.0	122.0		0.70	0.09	4352	364
San Luis Obispo San Luis Obispo	310-SANTA-41 310-SBE-41	Santa Rosa Creek San Bernardo Creek	8:47 AM 10:00 AM	moderate (<5 gal/sec) moderate (<5 gal/sec)	10.1	14.4	80 760	7.5	10.0	120.0		0.40	0.01	5172 4352	199 764
San Luis Obispo San Luis Obispo		Los Osos Creek	11:20 AM	stagnant		16.4	940	7.9	8.4			4.40	0.12	4352 3873	601
San Luis Obispo San Luis Obispo	310-UCF-41	Chorro Creek	8:06 AM	high (>5 gal/sec)		14.7	730	7.4	8.8			2.20	0.25	3673	309
San Luis Obispo		Estrella River		Dry											
San Luis Obispo		Estrella River		Dry											
		Estrella River	10:15 AM	high (>5 gal/sec)	17.5	16.8	2373	8.2	8.5	60.0		1.26	0.09	3654	41