

# Water Quality Report Card for Santa Cruz County Snapshot Day Results: May 2, 2015



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our coastal watersheds*

## Introduction

Snapshot Day is an annual community event where volunteers are trained to monitor water quality in local streams. The event is held the first Saturday of each May, and 2015 was the sixteenth year information was gathered on creeks flowing into Monterey Bay. The Coastal Watershed Council (CWC) and Monterey Bay National Marine Sanctuary (MBNMS) train hundreds of community volunteers to monitor sites covering more than 300 miles of coast from Pacifica to Morro Bay.

A total of 102 sites were monitored by 150 volunteers in 2015 across all four counties. In the County of Santa Cruz 42 sites were monitored by 57 volunteers (18 sites in the City of Santa Cruz were monitored by 25 volunteers; 2 sites in the City of Capitola were monitored by 3 volunteers; 10 sites in the City of Watsonville were monitored by 10 volunteers; the remaining 12 sites and 19 volunteers were located in various locations across Santa Cruz County). Note: one site in the City of Watsonville, 305-WSTRU-21 was not accessible and therefore was not monitored. In Monterey County 39 sites were monitored by 65 volunteers; in San Mateo County 13 sites were monitored by 23 volunteers; in San Luis Obispo County 8 sites were monitored by 5 volunteers.

This report shows the results for samples collected at 42 sites in Santa Cruz County. CWC teams follow scientific protocols to ensure that our data are reliable, and can be compared to water quality objectives. Water quality objectives, or “WQO” is a term regulators use to determine if water in a river is safe to swim in, or use for drinking water, irrigation, etc. When the WQO is exceeded, the water is considered no longer safe for various “beneficial” uses.

CWC encourages everyone to learn more about water quality in the river or creek nearest your home. More information and actual data is available on the CWC website at <http://coastal-watershed.org/>.

## Methods

### Training

Since 2000, the Snapshot Day event has trained citizen volunteers to collect water samples and conduct water quality assessments. Volunteers are trained to perform basic field water quality tests including measurements of temperature, dissolved oxygen, pH, electrical conductivity and transparency/turbidity. They also receive training in collecting water samples for laboratory analysis of nutrients (nitrate and orthophosphate) and bacteria (*Escherichia coli* and total coliform).

All CWC trainings for water quality monitoring focus on imparting to volunteer teams the knowledge and skill required to follow quality assurance protocols consistent with USEPA and State Water Resources Control Board procedures. CWC’s training sessions always stress the importance of volunteer safety above all other considerations.

Prior to Snapshot Day, volunteers were trained in the classroom on field monitoring techniques, including how to use a dissolved oxygen kit, conductivity meter, pH strips, transparency tube, and thermometer. Volunteers were also taught how to properly collect and preserve water samples for laboratory analysis using appropriate containers, and while wearing nitrile gloves. Volunteers also learn about teamwork, proper techniques for recording data, and chain of custody procedures.

Volunteers in Santa Cruz County received the training led by CWC staff on Saturday, April 25, 2015; Monterey, San Mateo and San Luis Obispo volunteers received trainings from MBNMS staff on April 26, 27 and 28, 2015, respectively.

### Monitoring

Dissolved oxygen was measured using a CHEMetrics colorimetric method test kit; conductivity was measured using an Oakton EC Testr; water temperature was measured using a spirit bulb or digital thermometer; pH was measured using Macherey-Nagel non-bleeding pH strips and transparency was measured using 120 cm transparency tubes. Physical observations such as flow, weather conditions and site conditions (e.g., trash, wildlife) were also recorded on field data sheets. Sample containers were filled with creek, river or slough water for laboratory analysis of nitrate, orthophosphate, *E.coli* and total coliform. All collected water samples were analyzed as a grab sample rather than a composite of samples.

### Data Analysis

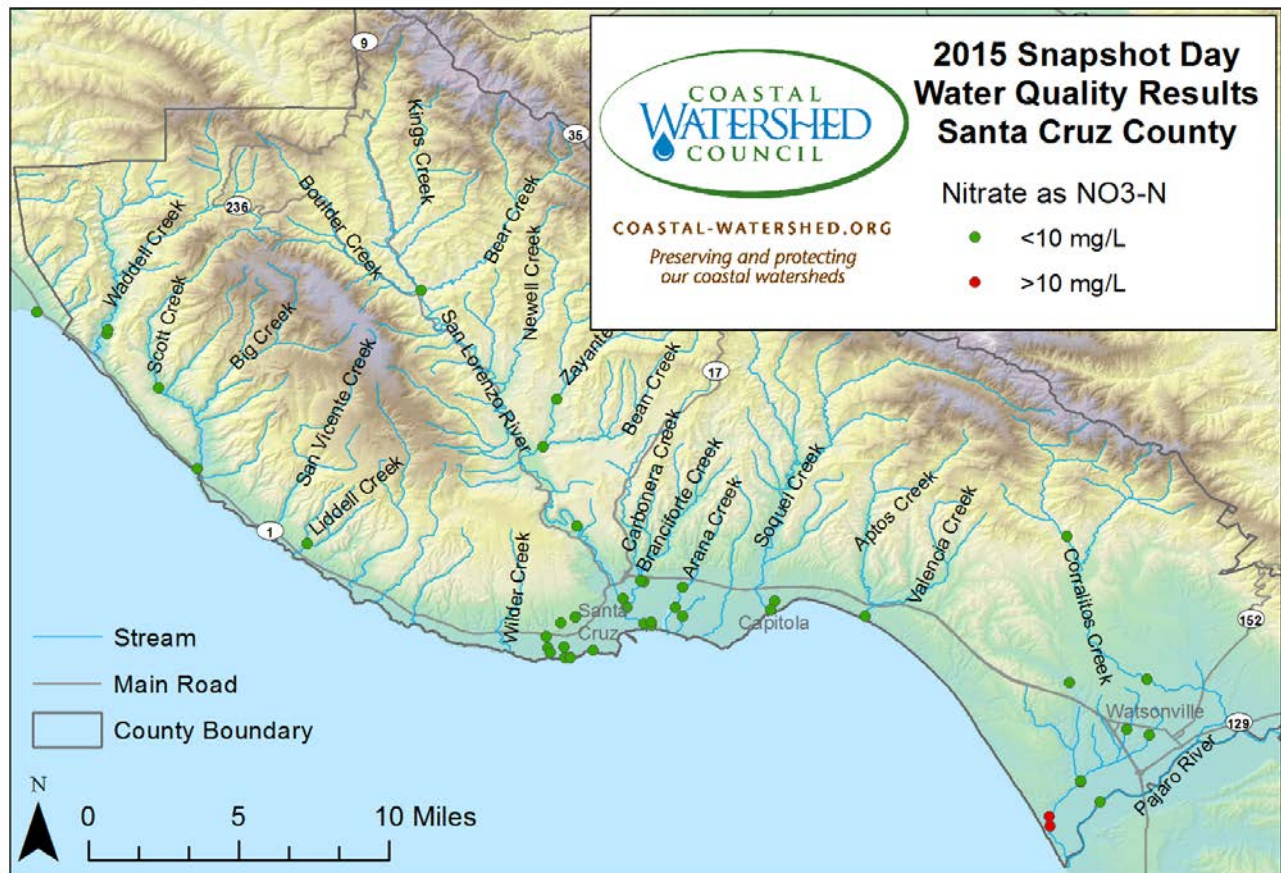
Monitoring results for nitrate, dissolved oxygen and pH were compared to the Water Quality Objectives (WQOs) in Chapter III of the [Central Coast Regional Water Quality Control Board's Basin Plan](#). *E.coli* results were compared to the [USEPA 2012 Recreational Water Quality Criteria](#). Orthophosphate results were compared to the former [Central Coast Ambient Monitoring Program \(CCAMP\)](#) Attention Level. There is no applicable WQO in the Central Coast Basin Plan for total coliform; for reporting purposes the WQO for total coliform in the neighboring San Francisco Basin Plan is referenced. There are no applicable WQO's or attention levels for air temperature, water temperature, electrical conductivity, or transparency.

All WQOs are established for receiving waters and *not* for end of pipe discharges. WQOs apply only to ambient concentrations within "receiving waters," i.e., a stream, lake, or ocean. The standards do not apply to end-of-pipe water such as storm drain discharges. Dilution via mixing with ambient water usually occurs in the receiving waters within a short distance of each storm drain outfall. Absent any applicable standard for those sites, these ambient water quality standards provide some means of comparison for the results.

### **Results/Discussion**

The following graphs and tables are designed toward public education and awareness and to engage residents in best management practices in our local watersheds. The Snapshot Day Report can be viewed online at: <http://coastal-watershed.org/cwc-reports/>

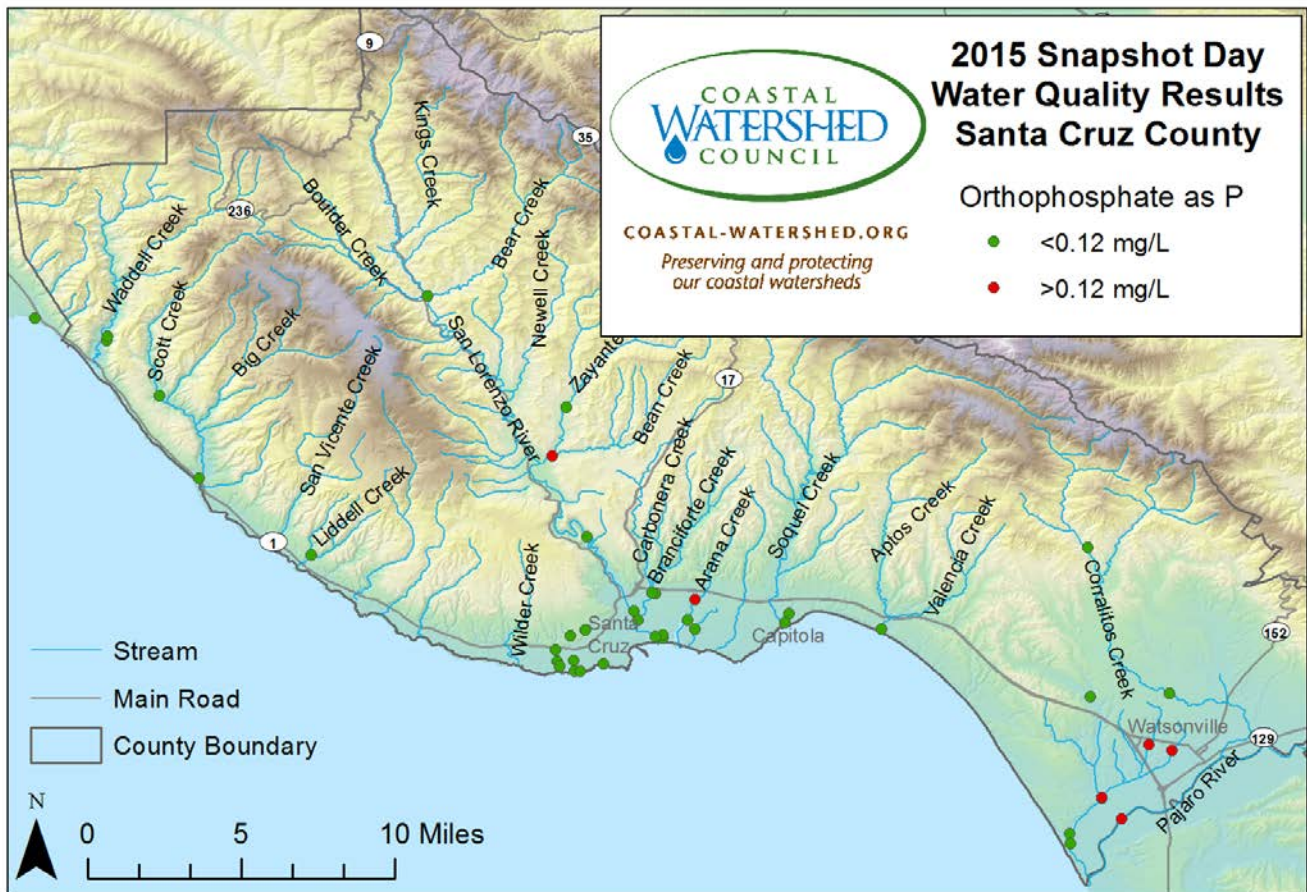
The Snapshot Day Multi-Year Report: *A Citizen Science Success Story 2000-2013* can be found on the [Monterey Bay National Marine Sanctuary \(MBNMS\) website](#) or on the [CWC website reports page](#).



### Nitrate Results:

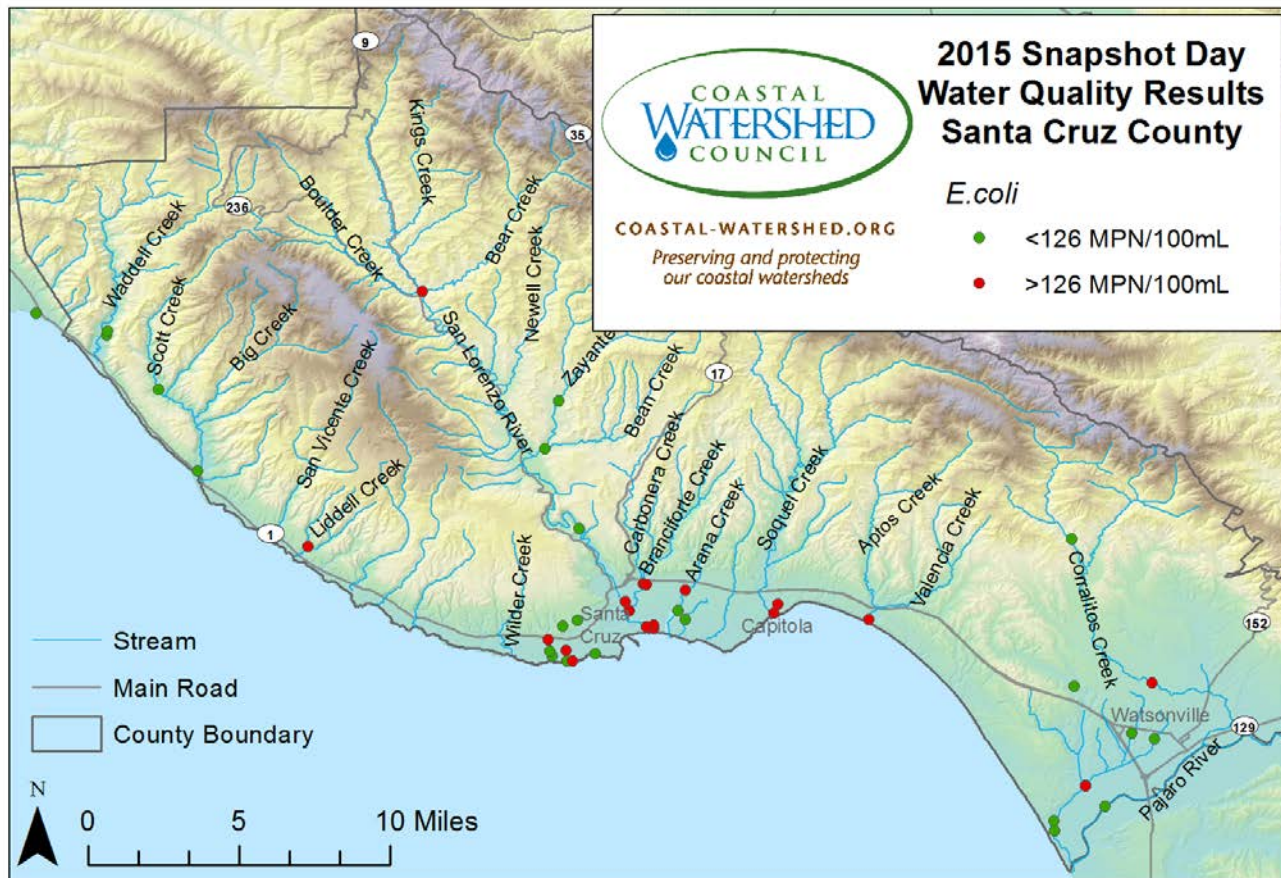
- 95% of sites met the Basin Plan Water Quality Objective (WQO) of <10 mg/L; 5% exceeded the WQO
- Nitrate is necessary for healthy plant growth, but too much can lead to algal blooms that deplete oxygen in water
- Sources: runoff from lawns or field containing fertilizers, animal waste, wash water, leaking sewer lines or failing septic systems, excess dumping of vegetative material
- What you can do: limit the use of chemical fertilizers, wash pets & cars where water won't run into a storm drain (use the lawn), place cut/dead vegetation in yard waste can or compost it
- Learn more at: <http://coastal-watershed.org/stewardship/>





### Orthophosphate Results:

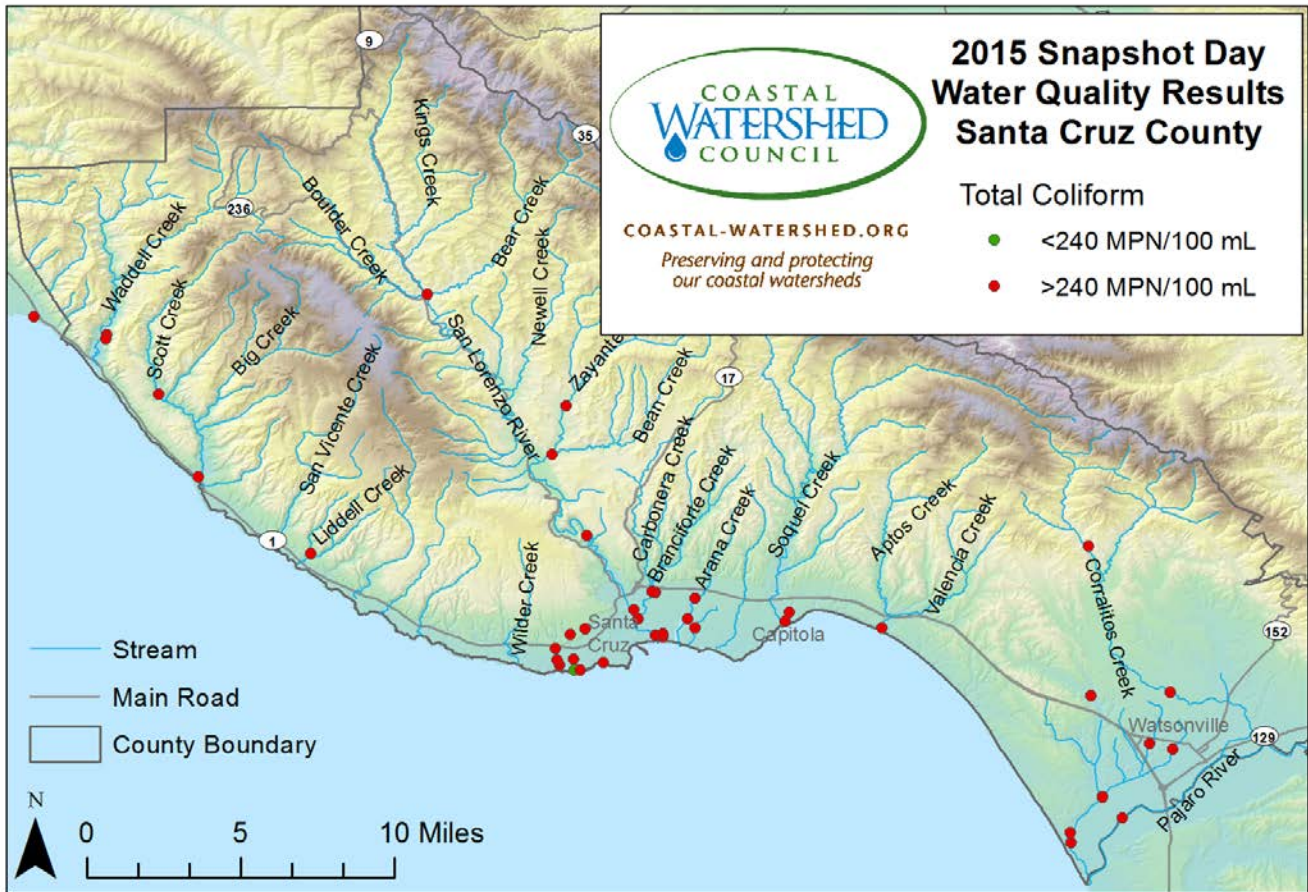
- 86% of sites met the former CCAMP attention level; 14% exceeded the former attention level of <math><0.12\text{ mg/L}</math>
- Orthophosphate is a necessary nutrient for aquatic plants, but excess amounts can cause algal blooms, oxygen depletion and death of fish, invertebrates & other aquatic species
- Sources: runoff from fertilized lawns, field, or animal manure storage areas; leaking sewer lines, failing septic systems, commercial cleaning products
- What you can do: maintain septic systems, limit the use of chemical fertilizers (especially before a rain)
- Learn more at: <http://coastal-watershed.org/stewardship/>



***E. coli* Results:**

- 55% of sites met the USEPA Water Quality (WQ) Criterion of 126 MPN/100 mL; 45% exceeded the USEPA WQ Criterion
- *E. coli* is an indicator of fecal pollution in water that may originate from animals or humans
- Sources: leaky sewer pipes, failing septic systems, pets and wildlife (esp. birds)
- What you can do: maintain septic systems, clean up after pets, report leaking sewer lines
- Learn more at: <http://coastal-watershed.org/stewardship/>





### Total Coliform Results:

- 2% of sites met the Basin Plan Water Quality Objective (WQO) of <240 MPN/100 mL; 98% exceeded the WQO
- Total Coliform is an indicator of fecal pollution in water that may originate from animals or humans
- Sources: leaky sewer pipes, failing septic systems, pets and wildlife (esp. birds)
- What you can do: maintain septic systems, clean up after pets, report leaking sewer lines
- Learn more at: <http://coastal-watershed.org/stewardship/>



## Conclusion

This report summarizes results for the Santa Cruz County 2015 Snapshot Day event conducted on Saturday, May 2, 2013. Exceedances of WQOs or attention levels were documented for nutrients (nitrate and orthophosphate), bacteria (*E.coli*, total coliform), dissolved oxygen and pH at 42 sites. For nutrients, nitrate levels were relatively low with the exception of 2 sites; exceedance levels were 15.0 and 23.1 mg/L NO<sub>3</sub>-N. For orthophosphate the 6 exceedances of the former water quality attention level of <0.12 mg/L ranged from 0.2 to 0.6 mg/L PO<sub>4</sub>-P. For pathogens, *E.coli* exceeded the WQO at 19 of 42 sites and at 41 of 42 sites for total coliform. For dissolved oxygen exceedances of the WQO occurred at 12 of 42 sites (29%) and for pH exceedances of the WQO occurred at 15 of 42 sites (36%). Note: one site in the City of Watsonville, 305-WSTRU-21 was inaccessible and therefore was not monitored.

The volunteers collecting this valuable information play a key role in our community as stewards of our watersheds. The information they provide is used by resource agencies, local governments and community groups to protect and improve the health of our local streams.

CWC hopes that the results in this report and from other monitoring programs will aid in pollution prevention efforts by identifying which constituents are of greatest concern. Environmental data, by its very nature, is extremely variable, and conclusions are often difficult to make based on limited data points. Nonetheless, these results are of use in shaping regional programs to inform the public about environmental stewardship.

CWC's mission is to preserve and protect coastal watersheds through community stewardship, education and monitoring. CWC staff welcome every possible opportunity to assist local leaders and the community in achieving our goals together.

More information about local water quality data is available at <http://coastal-watershed.org> or by contacting Monitoring Coordinator Debie Chico-Macdonald at (831) 464-9200 or [djchirco@coastal-watershed.org](mailto:djchirco@coastal-watershed.org).

Table 1 provides a list of the 2015 Santa Cruz County Snapshot Day sites.

Appendices A and B provide the summary of results for each parameter at each site. Results that exceed the applicable attention level or WQO are shaded in order to highlight these results.

**Table 1: 2015 Snapshot Day Santa Cruz County Sites**

Site ID	Site Description	Latitude	Longitude
304-APTOS-23	Aptos Creek At Mouth	36.96961	-121.90645
304-ARANA-21	Arana Creek At Harbor High fish ladder	36.98376	-121.99436
304-ARANA-22	Arana Creek at North Harbor	36.97399	-121.99776
304-ARROY-21	Arroyo Seco - Meder St between Western Drive & Nobel Drive, between City Park and cemetery	36.96670	-122.05330
304-ARROY-22	Arroyo Seco - Delaware Avenue between Swift Street & Swanton Blvd.	36.95500	-122.05170
304-ARROY-23	Arroyo Seco - Auburn Avenue or Sacramento Avenue at pool along pedestrian walkway parallel to West Cliff Drive	36.94960	-122.05140
304-BRANC-21	Branciforte above confluence with the San Lorenzo River	36.97400	-122.02130
304-BRANC-23	Branciforte @ 434 Market Street	36.98650	-122.01300
304-CARBO-21	Carbonera Creek u/s of confluence with Branciforte Creek	36.98679	-122.01468
304-CSD-08	Noble Gulch at Monterey Ave.	36.97697	-121.95004
304-LEONA-21	Leona Creek at 7th Ave. & Brommer at Sorrento Oaks Mobile Home Park	36.96951	-121.99433
304-LIDEL-21	Lidel Creek - 0.3 mi. from Hwy 1/Boony Doon Rd junction	37.00474	-122.17561
304-MOORE-21	Moore Creek at the outflow of Antonelli Pond	36.95450	-122.05930
304-MOORE-24	Moore Creek above Antonelli Pond	36.95997	-122.06036
304-MOORE-26	Moore Creek at mouth in Natural Bridges State Park	36.95219	-122.05838
304-NEWYE-11	Mouth of New Year's Creek at Ano Nuevo State Park	37.11650	-122.30616
304-PILKI-21	Pilkington Creek @ SC Natural History Museum	36.96542	-122.00963
304-PILKI-22	Pilkington Creek - upstream at Brook & Murray Streets	36.96676	-122.00962
304-SANLO-21	San Lorenzo River near the Majaraja Restaurant	36.97810	-122.02310
304-SANLO-22	San Lorenzo River Mouth at the Trestle bridge	36.96600	-122.01320
304-SANLO-26	San Lorenzo River at edge of Toll House Creek	37.01347	-122.04551
304-SANLO-27	San Lorenzo R @ Junction Park (confluence of Boulder Creek & SLR off Hwy 9)	37.12721	-122.12052
304-SCOTT-22	Scott Creek - 4.0 mi. up Swanton Road at small turnout	37.07999	-122.24715
304-SCOTT-25	Mouth of Scott Creek @ Hwy 1	37.04088	-122.22861
304-SCSD2	Merced at West Cliff Drive, 30 inch outfall pipe	36.94961	-122.04844
304-SCSD3	Bay at Escalona, shunted to North side of stree, collect at NW corner	36.96936	-122.04617
304-SCSD4	Woodrow at West Cliff, inland side of culvert under West Cliff	36.95310	-122.03770
304-SOQUE-22	Mouth of Soquel Creek in Capitola Village	36.97260	-121.95200
304-WADDE-21	House" shed	37.10613	-122.27231
304-WADDE-22	At forks of Waddell Creek just below steel foot bridge	37.10807	-122.27181
304-ZAYAN-21	Zayane road to Olympia Station Road	37.05141	-122.06183
304-ZAYAN-22	Zayante Creek @ Quail Hollow Fish Ladder on E. Zayante Road	37.07428	-122.05531
305-BEACH-21	Beach Road Ditch @ Palm Beach near Pajaro Dunes	36.87305	-121.81731
305-CORRA-21	Corralitos Creek at Thicket Lane & Green Valley Road	36.93920	-121.77040
305-CORRA-22	Corralitos Creek at Las Colinas Road & Eureka Canyon Road	37.00804	-121.80886
305-HARKI-22	Harkins Slough at Pajaro Valley Water Management Agency Pump Station	36.88980	-121.80240
305-HARKI-23	Harkins Slough at Buena Vista Drive	36.93760	-121.80790
305-PAJAR-21	Pajaro River under Thurwachter Bridge	36.88000	-121.79310
305-STRUV-21	Struve Slough at Harkins Slough Road	36.91510	-121.78010
305-WATSO-21	Watsonville Slough at Harkins Slough Road	36.91240	-121.76920
305-WATSO-22	Watsonville Slough @ Pajaro Valley Water Management Agency Pump Station	36.89000	-121.80220
305-WATSO-23	Watsonville Slough @ Palm Beach Rd.	36.86820	-121.81720
305-WSTRU-21	West Branch of Struve Slough at Harkins Slough Rd/Green Valley Road junction (DFG Site)	36.91360	-121.78840



## Appendix A: Field Measurements

Air Temperature °C No WQO	Site ID	Result	Site ID	Result
	304-APTOS-23	13.7	304-PILKI-21	14.9
	304-ARANA-21	14.1	304-PILKI-22	15.5
	304-ARANA-22	16.3	304-SANLO-21	17.0
	304-ARROY-21	13.6	304-SANLO-22	15.5
	304-ARROY-22	16.0	304-SANLO-26	22.7
	304-ARROY-23	14.6	304-SANLO-27	18.5
	305-BEACH-21	16.7	304-SCOTT-22	12.8
	304-BRANC-21	18.0	304-SCOTT-25	13.3
	304-BRANC-23	15.0	304-SCSD-02	12.9
	304-CARBO-21	16.0	304-SCSD-03	14.7
	305-CORRA-21	20.0	304-SCSD-04	14.4
	305-CORRA-22	15.4	304-SOQUE-22	12.0
	304-CSD-08	13.6	305-STRUV-21	17.3
	305-HARKI-22	15.2	304-WADDE-21	14.6
	305-HARKI-23	16.1	304-WADDE-22	16.5
	304-LEONA-21	15.8	305-WATSO-21	16.0
	304-LIDELL-21	12.4	305-WATSO-22	14.5
	304-MOORE-21	14.8	305-WATSO-23	15.3
	304-MOORE-24	14.4	305-WSTRU-21	NA
304-MOORE-26	14.5	304-ZAYAN-21	17.9	
304-NEWYE-11	14.0	304-ZAYAN-22	19.7	
305-PAJAR-21	16.3			

Water Temperature °C No WQO	Site ID	Result	Site ID	Result
	304-APTOS-23	16.6	304-PILKI-21	13.5
	304-ARANA-21	12.6	304-PILKI-22	13.7
	304-ARANA-22	15.2	304-SANLO-21	17.1
	304-ARROY-21	13.5	304-SANLO-22	13.7
	304-ARROY-22	14.5	304-SANLO-26	17.6
	304-ARROY-23	16.6	304-SANLO-27	14.8
	305-BEACH-21	20.1	304-SCOTT-22	12.8
	304-BRANC-21	17.0	304-SCOTT-25	15.1
	304-BRANC-23	14.0	304-SCSD-02	17.6
	304-CARBO-21	14.0	304-SCSD-03	15.2
	305-CORRA-21	14.0	304-SCSD-04	11.6
	305-CORRA-22	12.5	304-SOQUE-22	16.0
	304-CSD-08	13.2	305-STRUV-21	19.3
	305-HARKI-22	17.6	304-WADDE-21	14.1
	305-HARKI-23	13.7	304-WADDE-22	13.5
	304-LEONA-21	13.2	305-WATSO-21	22.0
	304-LIDELL-21	12.1	305-WATSO-22	18.3
	304-MOORE-21	18.1	305-WATSO-23	20.8
	304-MOORE-24	11.7	305-WSTRU-21	NA
304-MOORE-26	15.4	304-ZAYAN-21	14.7	
304-NEWYE-11	12.3	304-ZAYAN-22	14.3	
305-PAJAR-21	19.2			

NA Results indicate test not performed

<b>Electrical Conductivity uS No WQO</b>	<b>Site ID</b>	<b>Result</b>	<b>Site ID</b>	<b>Result</b>
	304-APTOS-23	900	304-PILKI-21	600
	304-ARANA-21	600	304-PILKI-22	500
	304-ARANA-22	568	304-SANLO-21	OR
	304-ARROY-21	100	304-SANLO-22	OR
	304-ARROY-22	600	304-SANLO-26	500
	304-ARROY-23	600	304-SANLO-27	550
	304-BEACH-21	4100	304-SCOTT-22	260
	304-BRANC-21	20	304-SCOTT-25	1460
	304-BRANC-23	630	304-SCSD-02	840
	304-CARBO-21	460	304-SCSD-03	610
	304-CORRA-21	830	304-SCSD-04	760
	304-CORRA-22	620	304-SOQUE-22	2200
	304-CSD-08	500	305-STRUV-21	360
	304-HARKI-22	3500	304-WADDE-21	400
	304-HARKI-23	450	304-WADDE-22	390
	304-LEONA-21	500	305-WATSO-21	350
	304-LIDELL-21	440	305-WATSO-22	2600
	304-MOORE-21	640	305-WATSO-23	9600
	304-MOORE-24	870	305-WSTRU-21	NA
304-MOORE-26	330	304-ZAYAN-21	560	
304-NEWYE-11	540	304-ZAYAN-22	730	
304-PAJAR-21	1950			

<b>Dissolved Oxygen mg/L WQO: &gt;7.0 mg/L</b>	<b>Site ID</b>	<b>Result</b>	<b>Site ID</b>	<b>Result</b>
	304-APTOS-23	6.5	304-PILKI-21	5.5
	304-ARANA-21	7.0	304-PILKI-22	7.0
	304-ARANA-22	6.0	304-SANLO-21	11.0
	304-ARROY-21	2.0	304-SANLO-22	7.0
	304-ARROY-22	8.0	304-SANLO-26	8.1
	304-ARROY-23	8.0	304-SANLO-27	8.9
	305-BEACH-21	9.0	304-SCOTT-22	6.0
	304-BRANC-21	11.0	304-SCOTT-25	6.0
	304-BRANC-23	9.0	304-SCSD-02	8.0
	304-CARBO-21	10.0	304-SCSD-03	9.0
	305-CORRA-21	7.0	304-SCSD-04	11.0
	305-CORRA-22	11.0	304-SOQUE-22	8.0
	304-CSD-08	8.0	305-STRUV-21	6.0
	305-HARKI-22	>12	304-WADDE-21	8.0
	305-HARKI-23	5.0	304-WADDE-22	7.0
	304-LEONA-21	4.0	305-WATSO-21	7.0
	304-LIDELL-21	6.0	305-WATSO-22	12.0
	304-MOORE-21	5.5	305-WATSO-23	8.0
	304-MOORE-24	4.5	305-WSTRU-21	NA
304-MOORE-26	11.0	304-ZAYAN-21	8.9	
304-NEWYE-11	8.0	304-ZAYAN-22	8.8	
305-PAJAR-21	8.0			

NA Results indicate test not performed

pH log[H+] WQO: >7.0 and <8.5	Site ID	Result	Site ID	Result
	304-APTOS-23	7.0	304-PILKI-21	7.0
	304-ARANA-21	7.0	304-PILKI-22	6.5
	304-ARANA-22	7.0	304-SANLO-21	7.0
	304-ARROY-21	7.0	304-SANLO-22	6.5
	304-ARROY-22	7.0	304-SANLO-26	6.5
	304-ARROY-23	7.0	304-SANLO-27	6.5
	305-BEACH-21	7.5	304-SCOTT-22	6.5
	304-BRANC-21	7.5	304-SCOTT-25	6.0
	304-BRANC-23	7.0	304-SCSD-02	7.0
	304-CARBO-21	7.0	304-SCSD-03	7.5
	305-CORRA-21	7.0	304-SCSD-04	7.0
	305-CORRA-22	6.5	304-SOQUE-22	7.0
	304-CSD-08	7.0	305-STRUUV-21	7.0
	305-HARKI-22	8.0	304-WADDE-21	6.0
	305-HARKI-23	7.3	304-WADDE-22	6.0
	304-LEONA-21	6.5	305-WATSO-21	6.5
	304-LIDELL-21	6.0	305-WATSO-22	7.5
	304-MOORE-21	6.5	305-WATSO-23	8.0
	304-MOORE-24	7.0	305-WSTRU-21	NA
304-MOORE-26	7.0	304-ZAYAN-21	7.0	
304-NEWYE-11	6.0	304-ZAYAN-22	6.0	
305-PAJAR-21	7.0			

Transparency cm No WQO	Site ID	Result	Site ID	Result
	304-APTOS-23	108.0	304-PILKI-21	107.5
	304-ARANA-21	>120	304-PILKI-22	90.0
	304-ARANA-22	>120	304-SANLO-21	58.0
	304-ARROY-21	80.0	304-SANLO-22	90.0
	304-ARROY-22	>120	304-SANLO-26	99.5
	304-ARROY-23	>120	304-SANLO-27	>120
	305-BEACH-21	39.0	304-SCOTT-22	>120
	304-BRANC-21	31.0	304-SCOTT-25	>120
	304-BRANC-23	97.0	304-SCSD-02	>120
	304-CARBO-21	105.0	304-SCSD-03	>120
	305-CORRA-21	>120	304-SCSD-04	>120
	305-CORRA-22	>120	304-SOQUE-22	>120
	304-CSD-08	>120	305-STRUUV-21	34.5
	305-HARKI-22	18.9	304-WADDE-21	>120
	305-HARKI-23	92.5	304-WADDE-22	>120
	304-LEONA-21	79.0	305-WATSO-21	66.0
	304-LIDELL-21	>120	305-WATSO-22	59.9
	304-MOORE-21	>120	305-WATSO-23	25.1
	304-MOORE-24	51.9	305-WSTRU-21	NA
304-MOORE-26	96.4	304-ZAYAN-21	>120	
304-NEWYE-11	>120	304-ZAYAN-22	84.8	
305-PAJAR-21	75.0			

NA Results indicate test not performed



## Appendix B: Laboratory Results

Nitrate-N mg/L NO <sub>3</sub> -N WQO: <10.0 mg/L	Site ID	Result	Site ID	Result
	304-APTOS-23	ND	304-PILKI-21	0.1
	304-ARANA-21	0.3	304-PILKI-22	0.2
	304-ARANA-22	0.1	304-SANLO-21	0.3
	304-ARROY-21	ND	304-SANLO-22	0.1
	304-ARROY-22	0.6	304-SANLO-26	0.5
	304-ARROY-23	1.4	304-SANLO-27	0.3
	305-BEACH-21	23.1	304-SCOTT-22	0.2
	304-BRANC-21	ND	304-SCOTT-25	0.1
	304-BRANC-23	0.4	304-SCSD-02	4.0
	304-CARBO-21	0.6	304-SCSD-03	1.5
	305-CORRA-21	1.3	304-SCSD-04	3.1
	305-CORRA-22	0.2	304-SOQUE-22	ND
	304-CSD-08	0.4	305-STRUV-21	ND
	305-HARKI-22	1.6	304-WADDE-21	0.2
	305-HARKI-23	ND	304-WADDE-22	0.2
	304-LEONA-21	0.2	305-WATSO-21	ND
	304-LIDEL-21	0.3	305-WATSO-22	6.5
	304-MOORE-21	ND	305-WATSO-23	15.0
	304-MOORE-24	0.1	305-WSTRU-21	NA
304-MOORE-26	ND	304-ZAYAN-21	0.5	
304-NEWYE-11	0.8	304-ZAYAN-22	0.2	
305-PAJAR-21	1.2			

Orthophosphate-P mg/L PO <sub>4</sub> -P AL: <0.12 mg/L	Site ID	Result	Site ID	Result
	304-APTOS-23	0.1	304-PILKI-21	ND
	304-ARANA-21	0.2	304-PILKI-22	ND
	304-ARANA-22	ND	304-SANLO-21	ND
	304-ARROY-21	ND	304-SANLO-22	ND
	304-ARROY-22	ND	304-SANLO-26	ND
	304-ARROY-23	ND	304-SANLO-27	ND
	305-BEACH-21	ND	304-SCOTT-22	ND
	304-BRANC-21	ND	304-SCOTT-25	ND
	304-BRANC-23	0.1	304-SCSD-02	0.1
	304-CARBO-21	ND	304-SCSD-03	ND
	305-CORRA-21	ND	304-SCSD-04	ND
	305-CORRA-22	ND	304-SOQUE-22	ND
	304-CSD-08	ND	305-STRUV-21	0.3
	305-HARKI-22	ND	304-WADDE-21	ND
	305-HARKI-23	ND	304-WADDE-22	ND
	304-LEONA-21	ND	305-WATSO-21	0.2
	304-LIDEL-21	0.1	305-WATSO-22	0.6
	304-MOORE-21	ND	305-WATSO-23	ND
	304-MOORE-24	ND	305-WSTRU-21	NA
304-MOORE-26	ND	304-ZAYAN-21	0.2	
304-NEWYE-11	ND	304-ZAYAN-22	0.1	
305-PAJAR-21	0.2			

NA Results indicate test not performed

ND= Non-detect result

<i>E.coli</i> MPN/100 ml WQO <126 MPN/100 ml	Site ID	Result	Site ID	Result
	304-APTOS-23	1498	304-PILKI-21	1111
	304-ARANA-21	172	304-PILKI-22	7308
	304-ARANA-22	<20	304-SANLO-21	431
	304-ARROY-21	40	304-SANLO-22	757
	304-ARROY-22	389	304-SANLO-26	104
	304-ARROY-23	<20	304-SANLO-27	242
	305-BEACH-21	103	304-SCOTT-22	<20
	304-BRANC-21	569	304-SCOTT-25	<20
	304-BRANC-23	402	304-SCSD-02	700
	304-CARBO-21	242	304-SCSD-03	125
	305-CORRA-21	148	304-SCSD-04	20
	305-CORRA-22	104	304-SOQUE-22	518
	304-CSD-08	2877	305-STRUV-21	20
	305-HARKI-22	8103	304-WADDE-21	<20
	305-HARKI-23	125	304-WADDE-22	<20
	304-LEONA-21	61	305-WATSO-21	<20
	304-LIDEL-21	170	305-WATSO-22	194
	304-MOORE-21	20	305-WATSO-23	40
	304-MOORE-24	126	305-WSTRU-21	NA
304-MOORE-26	<20	304-ZAYAN-21	124	
304-NEWYE-11	83	304-ZAYAN-22	83	
305-PAJAR-21	<20			

Total Coliform MPN/100 mL WQO: <240 MPN/100 mL	Site ID	Result	Site ID	Result
	304-APTOS-23	7746	304-PILKI-21	15402
	304-ARANA-21	4978	304-PILKI-22	7746
	304-ARANA-22	492	304-SANLO-21	2548
	304-ARROY-21	6511	304-SANLO-22	2099
	304-ARROY-22	12976	304-SANLO-26	1551
	304-ARROY-23	20	304-SANLO-27	2792
	305-BEACH-21	13733	304-SCOTT-22	370
	304-BRANC-21	4962	304-SCOTT-25	779
	304-BRANC-23	2201	304-SCSD-02	2581
	304-CARBO-21	3836	304-SCSD-03	4962
	305-CORRA-21	3339	304-SCSD-04	10950
	305-CORRA-22	1203	304-SOQUE-22	3700
	304-CSD-08	13733	305-STRUV-21	6882
	305-HARKI-22	34658	304-WADDE-21	960
	305-HARKI-23	1672	304-WADDE-22	1423
	304-LEONA-21	5446	305-WATSO-21	3578
	304-LIDEL-21	1542	305-WATSO-22	>48392
	304-MOORE-21	5225	305-WATSO-23	>48392
	304-MOORE-24	1182	305-WSTRU-21	NA
304-MOORE-26	39726	304-ZAYAN-21	1041	
304-NEWYE-11	869	304-ZAYAN-22	3328	
305-PAJAR-21	6152			

NA Results indicate test not performed