



Monterey Bay National Marine Sanctuary Citizen  
Watershed Monitoring Network

# **Urban Watch Report 2008**

Prepared for  
**The City of Pacific Grove, California**

This program was administered in partnership with the City of Pacific Grove and the Monterey Bay National Marine Sanctuary

Report prepared by Anna Holden-Martz,  
Monterey Bay Sanctuary Citizen Watershed Monitoring Network Coordinator

## **Introduction/Overview**

The Urban Watch Program is a dry season monitoring program in which citizens monitor storm drain outfalls. The program began in 1997 as a collaborative effort between the City of Monterey, Monterey Bay Sanctuary Citizen Watershed Monitoring Network (Network) and the Coastal Watershed Council (CWC). The Urban Watch program has two purposes: to educate the public on human impacts to water quality and to collect valuable, reliable data to be used for management decisions by local jurisdictions. For years, the Urban Watch program has been educating local citizens and collecting data in the City of Pacific Grove (the “City”). Additionally, it has also helped the City to partially fulfill the education, outreach, and monitoring requirements of its Phase II National Pollution Discharge Elimination System (NPDES) storm water permit.



**Volunteers Joel Doss, Robert Armstrong, Jeff Johnson, and Art Evjen monitor the 8<sup>th</sup> Street outfall.**

This year, the Urban Watch program monitored four sites in the City of Pacific Grove (Table 1):

- Hopkins, at Hopkins Marine Station, below the tuna research facility
- Greenwood, located in Greenwood Park west of Central Avenue;
- Congress, on Congress Avenue across the street from Pacific Grove High School;
- Pico, on Sunset Drive north of Pico Street;

Lover’s Point and 8<sup>th</sup> Street are two outfalls with flow diverted to the sanitary sewer during the dry season. They were checked each week and if flowing, these sites were monitored and the city was notified. Monitoring was conducted by trained volunteers four times each month (twice a week, every-other week).

This year, 14 volunteers participated; six were veteran volunteers from previous years. During the monitoring season (June 14<sup>th</sup> – October 26<sup>th</sup>), volunteers donated over 336 hours of their time to conduct monitoring.

In addition to traditional volunteer recruitment, two “Backyard to Bay” events were held. These events were advertized to the public in order to provide education about storm water issues. Subjects of the “Backyard to Bay” events included “What is a Watershed?” and “Preparing for the First Flush.” During the two events, we spoke to over 100 individuals.

**Table 1: Site Identification**

<b>Site ID</b>	<b>Site Name</b>	<b>Location</b>
309-PGSD-09	HopkinsMon	At the beach at Hopkins Marine Station, behind the Tuna Research facility. This is the outfall farthest from the aquarium.
309-PGSD-01	8 <sup>th</sup> Street	At the bottom of 8 <sup>th</sup> Street in PG on the ocean side of the bike path.
309-CENTR-31	Greenwood Park	At the corner of Central and 13 <sup>th</sup> in PG, in the upstream corner of Greenwood Park.
309-PGSD-03	Lover's Point	A large, concrete outfall jutting under the bike path at Lover's Point cove
309-PGSD-06	Congress	On Congress Avenue, across the street from the high school, below the white railing along the road
309-PGSD-04	Pico	Along Sunset Boulevard, across the street from the house with the orange door, just north of Pico Street

## **Methods**

At the sites, volunteers recorded visual observations and field measurements on a field data sheet. Visual observations included presence of trash at the site, presence of an oil sheen, scum or bubbles, and if there was sewage present (sighted or smelled). Field measurements were taken for air and water temperature, electrical conductivity, pH, flow width, depth, and pipe wetted width. Volunteers then collected water samples to be processed at a central location.

Volunteers analyzed water samples for common urban pollutants: detergents, chlorine, ammonia, orthophosphate, color and odor. Chlorine and Ammonia are toxic to aquatic life. Orthophosphate causes algal growth which in turn can lower the dissolved oxygen available to aquatic life.



**Volunteers process samples during a Backyard to Bay event (From left to right: Jason Nachamkin, Karen Harris, Bob Emanuel, (Karen Sharp, interested citizen) Greg Seno, Larry O'Neill).**

Volunteers also collected bacteria samples once a month, which were analyzed at the Monterey Bay Analytical Services Laboratory. Monthly summaries were provided to the volunteers and PG Public Works officials to ensure timely notification of the volunteers' findings. The following three pages are the monthly summaries of monitoring results. For a tabular listing of all results, please see Attachment 1.



Monterey Bay Sanctuary Citizen Watershed Monitoring Network

# Pacific Grove Urban Watch '08

## Fast Facts for June

**Monitoring Dates: June 14<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup>, and 30<sup>th</sup>**

**Number of volunteers: 8  
Number of volunteer hours: 80  
Total season volunteer hours: 80**

	Chlorine	Detergent	Ammonia Nitrogen	Orthophosphate
Hopkins	ND	0.13	ND	0.67*
Greenwood	ND	0.28	0.09	0.90*
Lover's Point	ND	0.10	ND	0.61*
Congress	0.35	0.10	0.01	0.43*
Pico	ND	0.10	ND	0.36*

### Average Detections for June (ppm)

\*Indicates exceedence of CCAMP Water Quality Objective

ND = non-detect

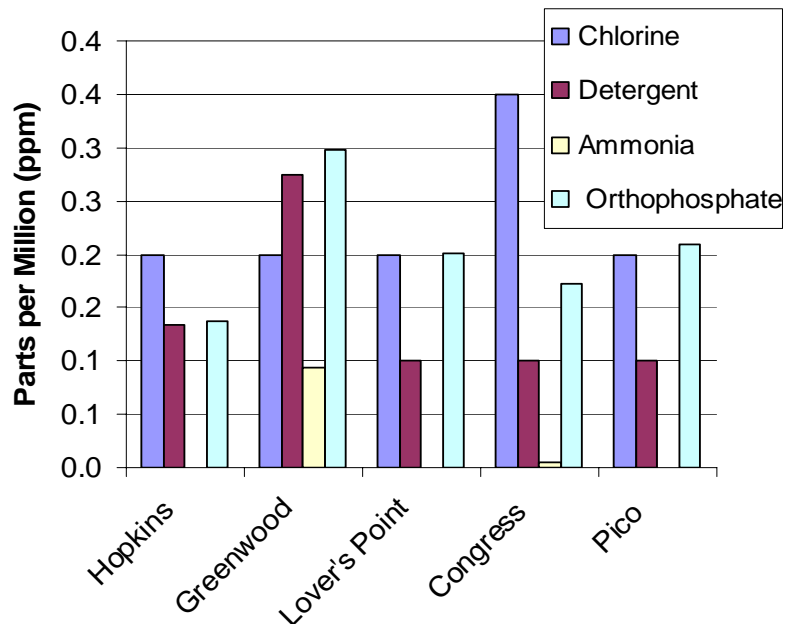
### Unusual Occurrences

Hopkins and Lover's Point were both flowing this month.

On the 17<sup>th</sup>, Greenwood had an orthophosphate concentration of 0.5 ppm, and a detergent detection of 0.6 ppm! That's higher than usual.

Congress had chlorine readings of 0.4 and 0.6 ppm, on the 17<sup>th</sup> and 19<sup>th</sup> respectively.

June 2008 Averages



**Trash / Cleanup:** This month, we picked up several plastic bags, bottles, wrappers, Styrofoam, cigarette butts, and beer cans. Thank you for helping keep less litter from entering the Monterey Bay Sanctuary!

For more information, contact Anna Holden-Martz, Citizen Watershed Monitoring Network Coordinator (831) 647-4227 or [anna.holden@noaa.gov](mailto:anna.holden@noaa.gov)



# Pacific Grove Urban Watch '08

## Fast Facts for July

Monitoring Dates: July 1st, 16<sup>th</sup>, 20<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup>

Number of volunteers: 6  
 Number of volunteer hours: 60  
 Total season volunteer hours: 140

### Average Detections for July (ppm)

	Chlorine	Detergent	Ammonia	Orthophosphate
Hopkins	ND	0.25	0.73	0.54*
Greenwood	ND	0.10	0.13	0.27*
Lover's Point	ND	0.10	0.05	0.15*
Congress	0.50	0.13	0.11	0.14*
Pico	ND	0.10	0.02	0.13*

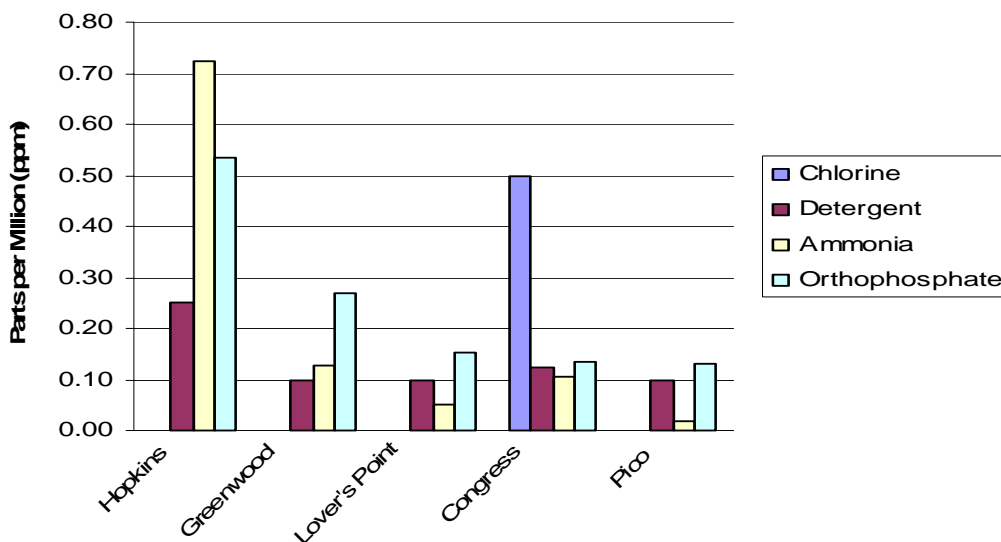
\*Indicates exceedence of CCAMP Water Quality Objective  
 ND = non-detect

### Unusual Occurrences

On July 28<sup>th</sup> the Hopkins outfall was milky white, had a detergent reading of 0.7 ppm. The orthophosphate reading was out of range on the meter, which converts to with >0.9 ppm PO4-P (WQO 0.12ppm)!

Congress had a chlorine reading of 0.8 ppm on the 28<sup>th</sup>.

July 2008 Averages



**Trash / Cleanup:** Trash was down at all sites each sampling day! Just a few plastic bags, water bottles, and candy wrappers. In fact, on the 29<sup>th</sup> all five sites were litter free!

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Monterey Bay Sanctuary Citizen Watershed Monitoring Network

# Pacific Grove Urban Watch '08

## Fast Facts for August

Monitoring Dates: August 12<sup>th</sup>, 14<sup>th</sup>, 26<sup>th</sup>, and 30<sup>th</sup>

Number of volunteers: 8  
 Number of volunteer hours: 64  
 Total season volunteer hours: 204

### Average Detections for August (ppm)

	Chlorine	Detergent	Ammonia	Orthophosphate
Hopkins	ND	1.60	0.23	0.20*
Greenwood	ND	0.58	0.77	0.27*
Lover's Point	ND	0.10	ND	0.13*
Congress	0.44	0.15	0.90	0.06
Pico	ND	0.10	0.08	0.11

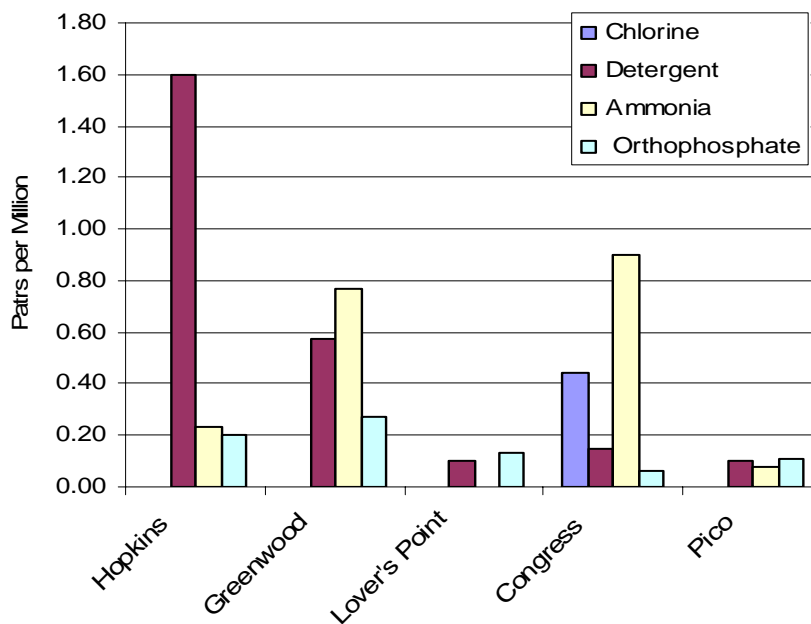
\*Indicates exceedence of CCAMP Water Quality Objective  
 ND = non-detect

### Unusual Occurrences

Construction at the PG High School football field began and caused sediment to run into the Congress outfall. We had one of the only high turbidity detections ever on August 12<sup>th</sup>!

On the 12<sup>th</sup>, the detergent concentration at Hopkins was 3.0ppm!

August 2008 Averages



**Trash / Cleanup:** This month, we picked up candy wrappers, fast food wrappers, cigarette butts, plastic bags, plastic pieces, wood scraps and insulation. Thanks for cleaning our city while sampling! Thanks for all the hard work, volunteers!

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Monterey Bay Sanctuary Citizen Watershed Monitoring Network

# Pacific Grove Urban Watch '08

## Fast Facts for September

Monitoring Dates: September 9<sup>th</sup>, 12<sup>th</sup>, 23<sup>rd</sup> and 25<sup>th</sup>

Number of volunteers: 7

Number of volunteer hours: 84

Total season volunteer hours: 288

### Average Detections for August (ppm)

	Chlorine	Detergent	Ammonia	Orthophosphate
Hopkins	ND	0.15	0.02	0.15*
8th Street	ND	0.25	ND	0.91*
Greenwood	ND	0.18	0.26	0.41*
Lover's	ND	0.13	0.00	0.15*
Congress	ND	0.13	0.59	0.10
Pico	ND	0.10	0.05	0.18*

\*Indicates exceedence of CCAMP Water Quality Objective

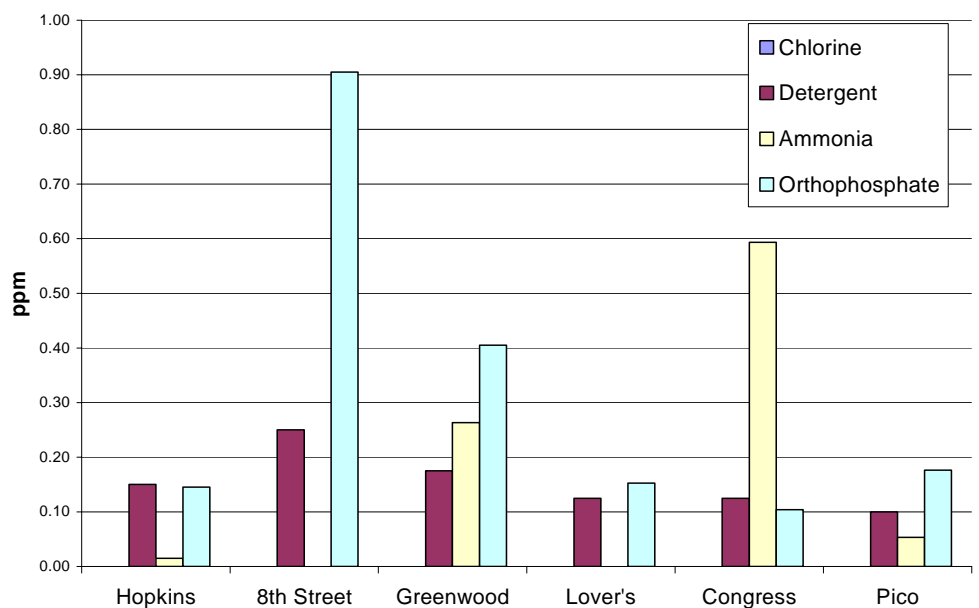
ND = non-detect

### Unusual Occurrences

This month was fairly uneventful, which is great for water quality!

The Hopkins outfall should no longer be flowing as I got word that the problem was fixed!

September Average Concentrations



**Trash / Cleanup:** This month, oodles of Styrofoam, candy and food wrappers, a football, aluminum cans, plastic bottles, plastic bags and plastic containers. Great job, everyone!

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Monterey Bay Sanctuary Citizen Watershed Monitoring Network

# Pacific Grove Urban Watch '08

## Fast Facts for October

Monitoring Dates: October 5<sup>th</sup>, 6<sup>th</sup>, 21<sup>st</sup>, and 25<sup>th</sup>

Number of volunteers: 6  
 Number of volunteer hours: 48  
 Total season volunteer hours: 336

	Chlorine	Detergents	Orthophosphate
8th Street	ND	0.20	0.37*
Greenwood	ND	0.60	0.32*
Lover's Point	ND	0.15	0.05
Congress	ND	0.10	0.17*
Pico	ND	0.10	0.12

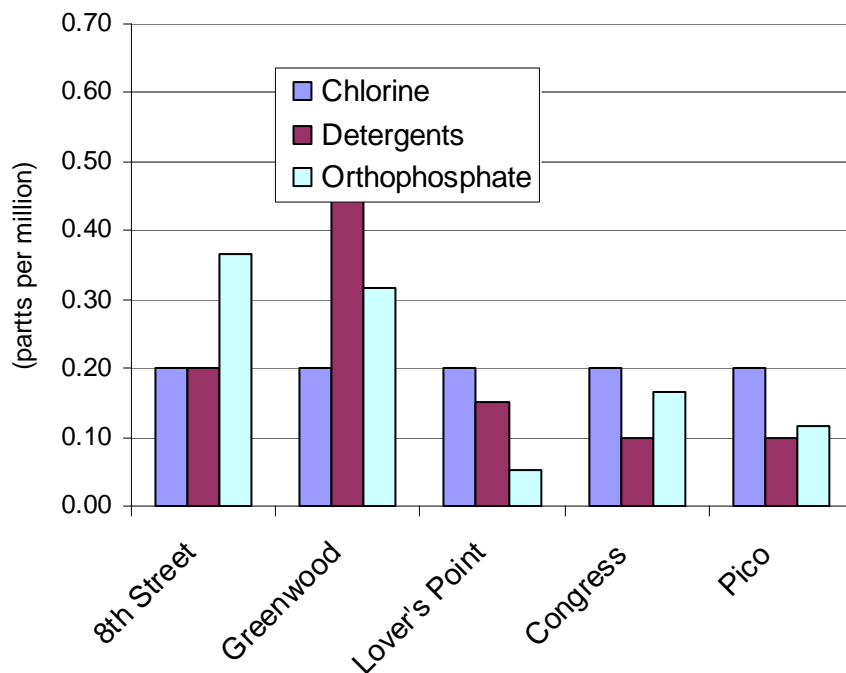
**\*Indicates exceedence of CCAMP Water Quality Objective**

**ND = non-detect**

### Fast Facts

- Hopkins outfall was fixed – no more flow this month!
- Greenwood had a detergent reading of > 2.0 ppm on October 6<sup>th</sup>!
- Ammonia Nitrogen readings were not taken for the month of October.

October 2008 Averages



### Trash/Clean-up

Styrofoam was found 3 out of four times at Greenwood. An alcohol bottle, 4 soda cans, a football and more than 7 food wrappers were picked up. Thank you, everyone!

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 (831) 647-4227 or [anna.holden@noaa.gov](mailto:anna.holden@noaa.gov)

## **Results**

Volunteers monitored a total of 21 times from June 14<sup>th</sup> – October 25<sup>th</sup>. Each team was assigned one week per month and asked to monitor twice in that week. Monitoring days were random; one team often monitored in the morning during the working week, another sampled after 5:00pm on week days and week ends. Teams split into two groups to collect field measurements and water samples, then met back at a central location to process samples for detergents, chlorine, orthophosphate, ammonia, color and odor.

Ammonia values are reported as total ammonia (NH<sub>3</sub>-N). When converted to ammonia (NH<sub>3</sub>)—the toxic form of ammonia--none of the values exceeded the water quality objective of 0.025ppm NH<sub>3</sub>.

Bacteria was sampled once each month. The WQO for bacteria are as follows: Total Coliform, 10,000 MPN/100ml; *E.coli*, 400 MPN/100ml; enterococcus, 104 MPN/100ml.

**Table 2. Monthly bacteria concentrations (MPN/100ml)**

Site	Parameter	June 14th	July 20th	August 26th	September 20th
<b>Hopkins</b>	Total Coliform			48380	31100
	<i>E.coli</i>			14540	312
	Enterococcus			48380	292
<b>Greenwood Park</b>	Total Coliform	48392	28270	48380	48400
	<i>E.coli</i>	8212	5510	8210	13000
	Enterococcus	8212	3450	28270	5820
<b>Lover's Point</b>	Total Coliform	48392	28270	48380	48400
	<i>E.coli</i>	6511	<20	628	1390
	Enterococcus	2375	172	1090	4130
<b>Congress</b>	Total Coliform	4719	48380	48380	6150
	<i>E.coli</i>	<20	3320	25990	1430
	Enterococcus	242	662	20925	1810
<b>Pico</b>	Total Coliform	6896	3580	2666	48400
	<i>E.coli</i>	1151	196	238	3840
	Enterococcus	40	126	466	8210

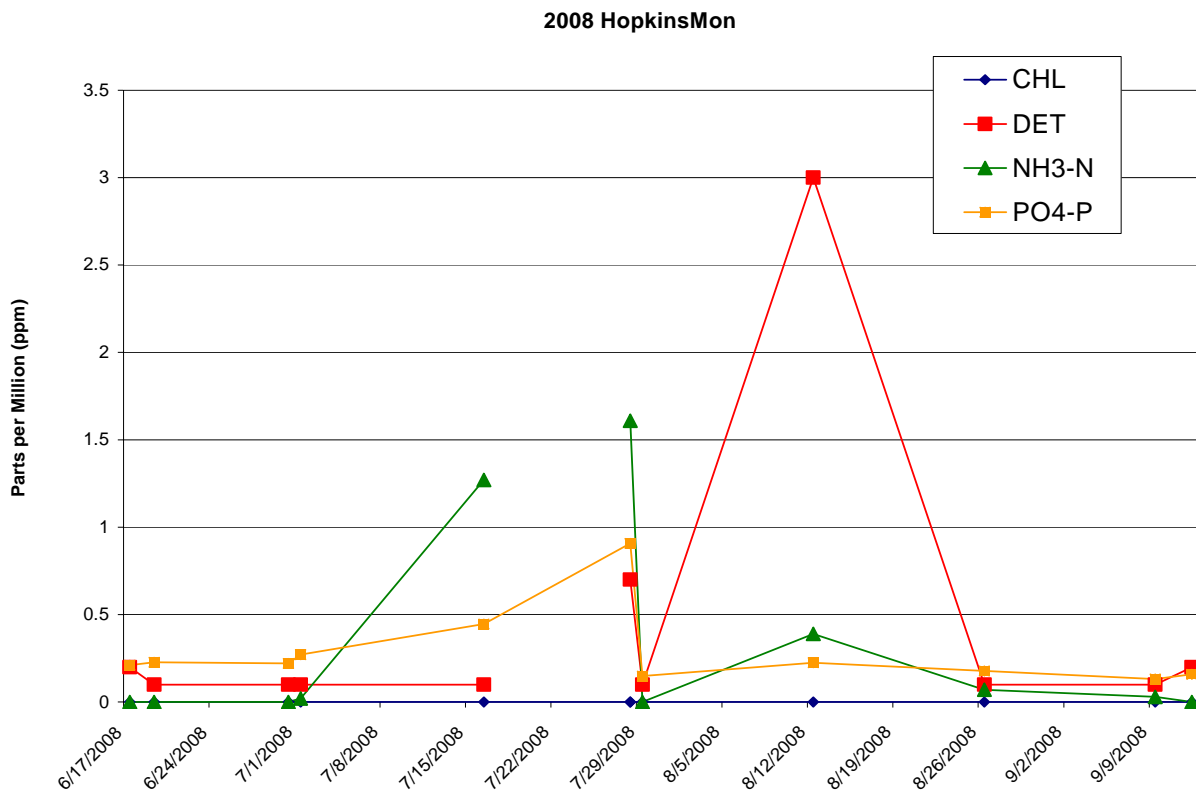
### **Hopkins**

There are two outfalls located next to each other on the beach between Hopkins Marine Station and the Monterey Bay Aquarium. The farthest west outfall drains a small area of Pacific Grove and was always dry. The outfall to the east and closest to the Monterey Bay Aquarium, drains areas of Monterey and Pacific Grove. This outfall was flowing each time we monitored. One source of the flow came from the Tuna Research Facility run by the Monterey Bay Aquarium. Overflow from the protein skimmers on the tuna holding tanks was discharging to the HopkinsMon outfall when they back flushed. We monitored the flow of this outfall until late September, when the situation was corrected. This outfall is connected to the city storm drain system and other upstream sources were possible. Because this site is

on private property, the site could only be accessed during regular business hours, Monday through Friday. Hopkins was sampled 12 times.

Hopkins had relatively low total ammonia; it rose above 1.0 ppm August 16<sup>th</sup> and 28<sup>th</sup>. Detergents were detected four times and once reached 3.0 ppm on August 12<sup>th</sup>. Orthophosphate concentrations generally were over the WQO of 0.12ppm, averaging 0.34ppm for the season. Chlorine was always non-detect (Figure 1).

Trash was reported on all but one sampling event; it was always picked up. Sewage was smelled or sighted on June 30<sup>th</sup>, and bubbles or scum were reported on July 16<sup>th</sup> and 29<sup>th</sup>. No oil sheen was recorded. Water temperature at the site averaged 17.1°C.



**Figure 1: Seasonal trends for analytes at HopkinsMon, 2008.**

Bacteria sampling during June and July were taken during weekends (without access), thus bacteria samples were collected at Hopkins only in August and September. The two month average concentration of total coliform at Hopkins was 39,740 MPN/100ml. The two month average concentration of *E.coli* and enterococcus was 7,426 MPN/100ml and 24,336 MPN/100ml, respectively (Table 2).

### **8<sup>th</sup> Street**

The 8<sup>th</sup> Street outfall is part of the PG Phase II diversion project, however, in order to alert the City to possible diversion system leaks, we drove by this site each

sampling day and sampled if water was flowing. The site was sampled on September 23<sup>rd</sup> and 25<sup>th</sup>, and October 25<sup>th</sup>. Ammonia was not detected in September (we didn't monitor for ammonia in October). Chlorine was always non-detect. Orthophosphate levels were over the WQO, averaging 0.32ppm. There were small detections for detergents during each sampling event averaging 0.23ppm.

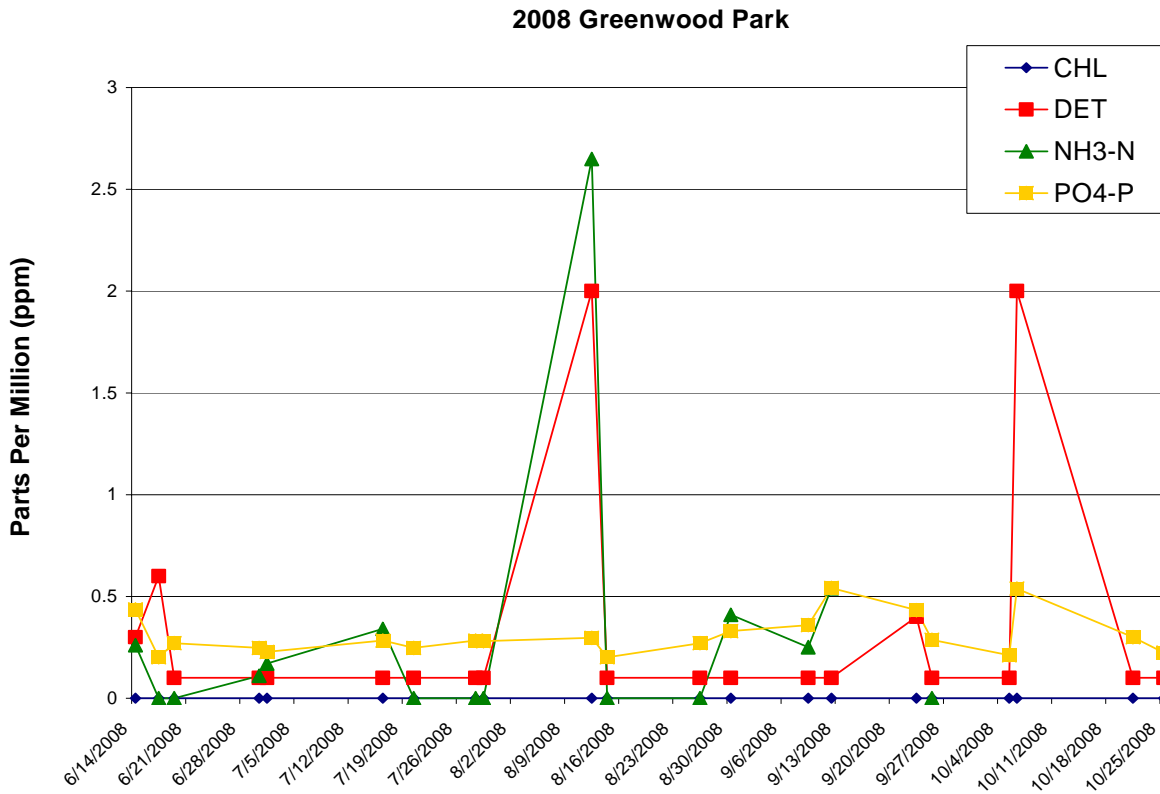
Trash was present each time, but there were no signs of sewage or oil sheen. Scum or bubbles were detected on September 23<sup>rd</sup>. Water temperature averaged 17.7°C.

On the days that bacteria samples were collected, the 8<sup>th</sup> Street outfall was dry.

### **Greenwood**

Just like last year, Greenwood Park had the most detections of parameters measured. On August 12<sup>th</sup>, Greenwood had higher concentrations of total ammonia (2.65 ppm) and detergent (2.0 ppm) than other sites. Detergents spiked again to 2.0ppm on October 6<sup>th</sup>. Orthophosphate was the highest on September 12<sup>th</sup> and October 6<sup>th</sup> (0.54 ppm). However, ammonia and orthophosphate concentrations didn't reach last year's high levels of 3.3 ppm and 0.91ppm, respectively. Chlorine was always <0.20 ppm (Figure 2).

Greenwood Park reported trash all but three of the 21 sampling events and it was picked up each time. Sewage smell or visual was recorded twice and scum or bubbles 12 times. There were no recordings of oil sheen. The average water temperature at Greenwood Park was 16° C.



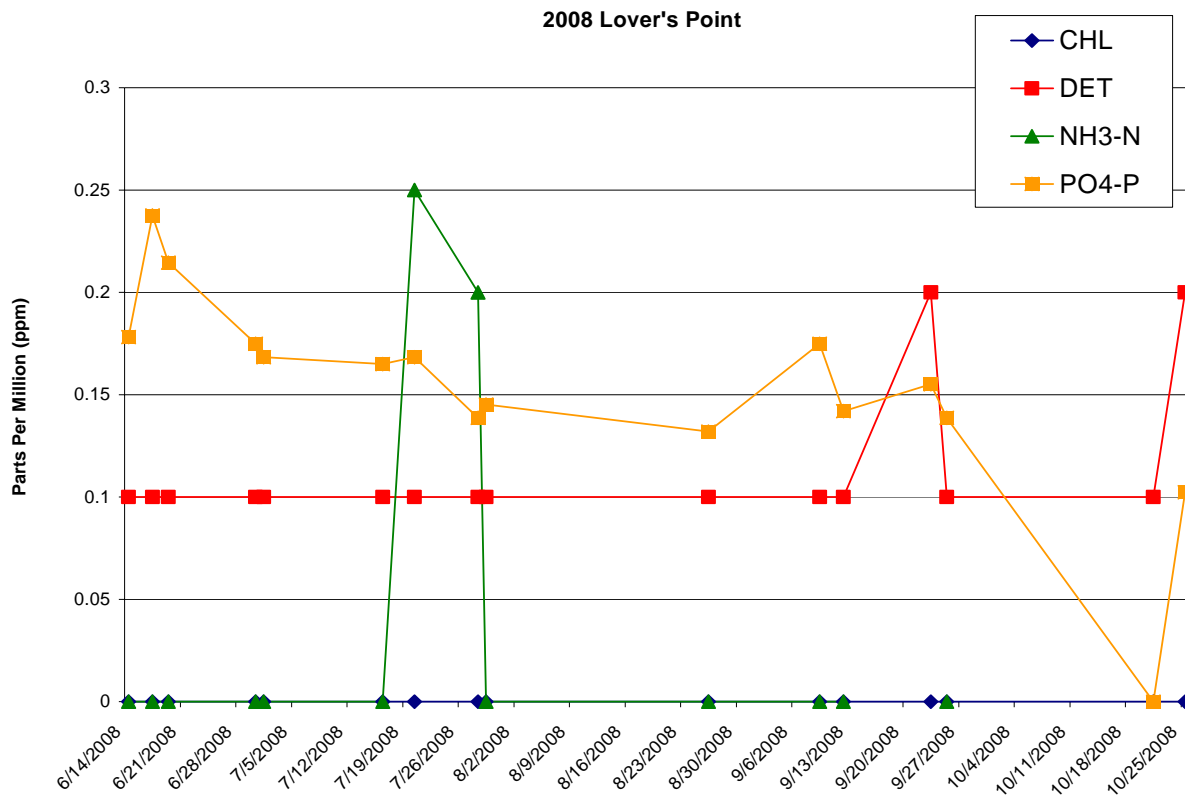
**Figure 2. Seasonal trends for analytes at Greenwood Park, 2008.**

Bacteria samples at Greenwood Park were taken on June 14<sup>th</sup>, July 20<sup>th</sup>, August 26<sup>th</sup>, and September 20<sup>th</sup>. The average concentration of total coliform for the season was 43,360 MPN/100ml. The average concentrations of *E.coli* and enterococcus for the season was 25,438 MPN/100ml and 11,438 MPN/100ml, respectively (Table 1).

### **Lover's Point**

This outfall is part of the PG Phase I diversion project, but it tended to seep a small amount of flow consistently throughout the season. When flowing, this outfall was monitored. It was sampled 16 times. Total ammonia was generally non-detect, and all detections were below 0.30ppm. Detergents were only detected twice, later in the season and both with a concentration of 0.2ppm. Orthophosphate was generally just over the WQO of 0.12ppm and averaged 0.15ppm for the season. Chlorine was always non-detect (Figure 3).

There was trash at Lover's Point 12 times; most of this trash was inside the large outfall and out of reach (a soccer ball was noticed in the pipe for most of the season). Sewage was sighted or smelled on October 25<sup>th</sup>, and bubbles or scum were reported on July 16<sup>th</sup>. No oil sheen was present. The water temperature averaged 16.1°C.



**Figure 3. Seasonal trends for analytes at Lover’s Point, 2008.**

Bacteria samples were collected at Lover’s Point in June, July, August and September. The season average concentration for total coliform was 43,360 MPN/100ml. The season average concentrations for *E.coli* and enterococcus were 2,137 MPN/100ml and 1,941 MPN/100ml respectively (Table 2).

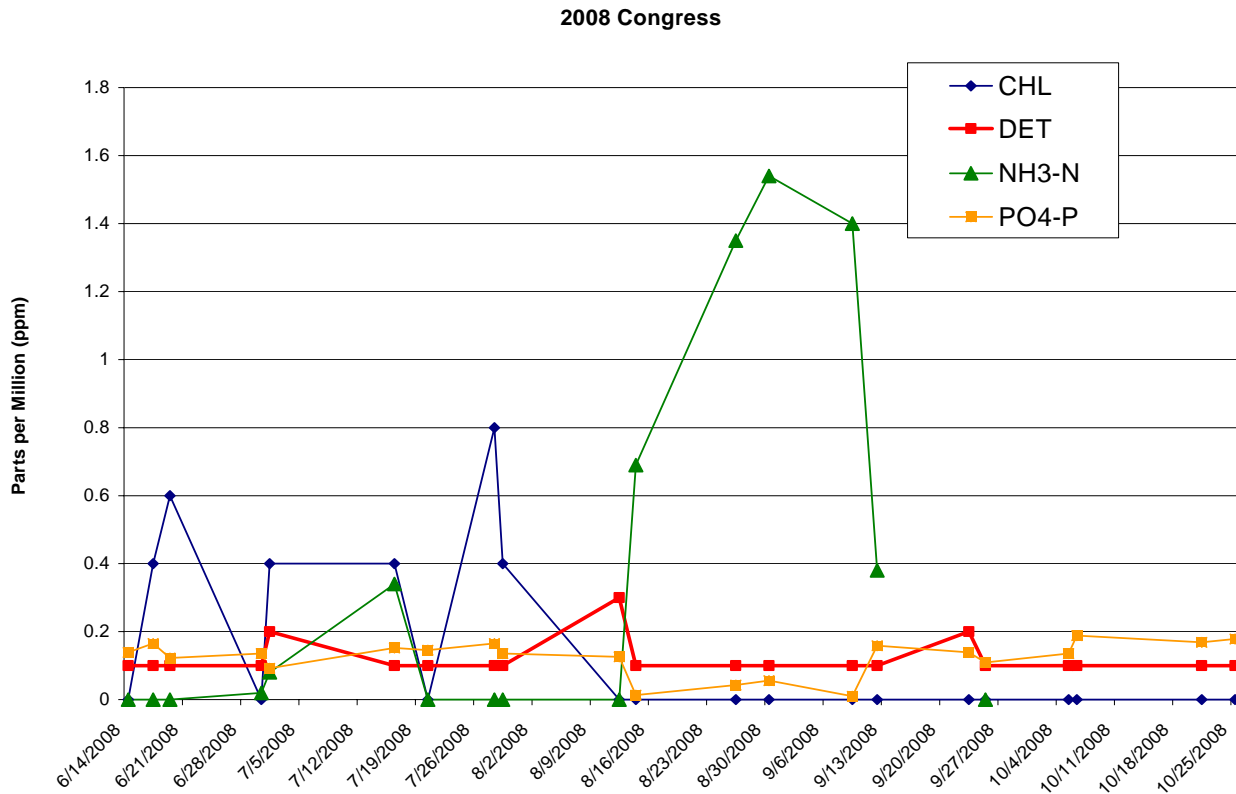
**Congress**

Congress is located just west of Pacific Grove High School. Like last year, this was the only site where chlorine was detected; however, it was detected fewer times than previous years. This summer, PG High renovated their football field, located just upstream of this site. During a sampling event in August, the water from the outfall suddenly went from clear to very turbid; it was the first high turbidity reading program-wide in several years. Additionally, a small outfall just north of Congress (8” diameter) was often flowing during sampling events. The turbidity of this outfall generally matched that of the Congress flow.

Total Ammonia concentration spiked to 1.54 ppm on August 2<sup>nd</sup>, and there were detections of chlorine on June 17<sup>th</sup> and 19<sup>th</sup>, and July 1<sup>st</sup>, 16<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup>. Orthophosphate values exceeded the WQO of 0.12ppm during 67% of sampling events, but averaged at the WQO (0.12ppm) for the season. Detergents were only detected (above 0.1ppm) three times (Figure 4).

Volunteers noted the presence of trash during 14 of the 21 sampling events. Much of the trash was out of reach; volunteers recorded picking up fast food wrappers, Styrofoam cups and pieces, aluminum cans, plastic bottles and golf balls. A

nondescript odor was detected on August 12<sup>th</sup>. Surface scum was noted four times. Average water temperature at Congress was 18.2° C.



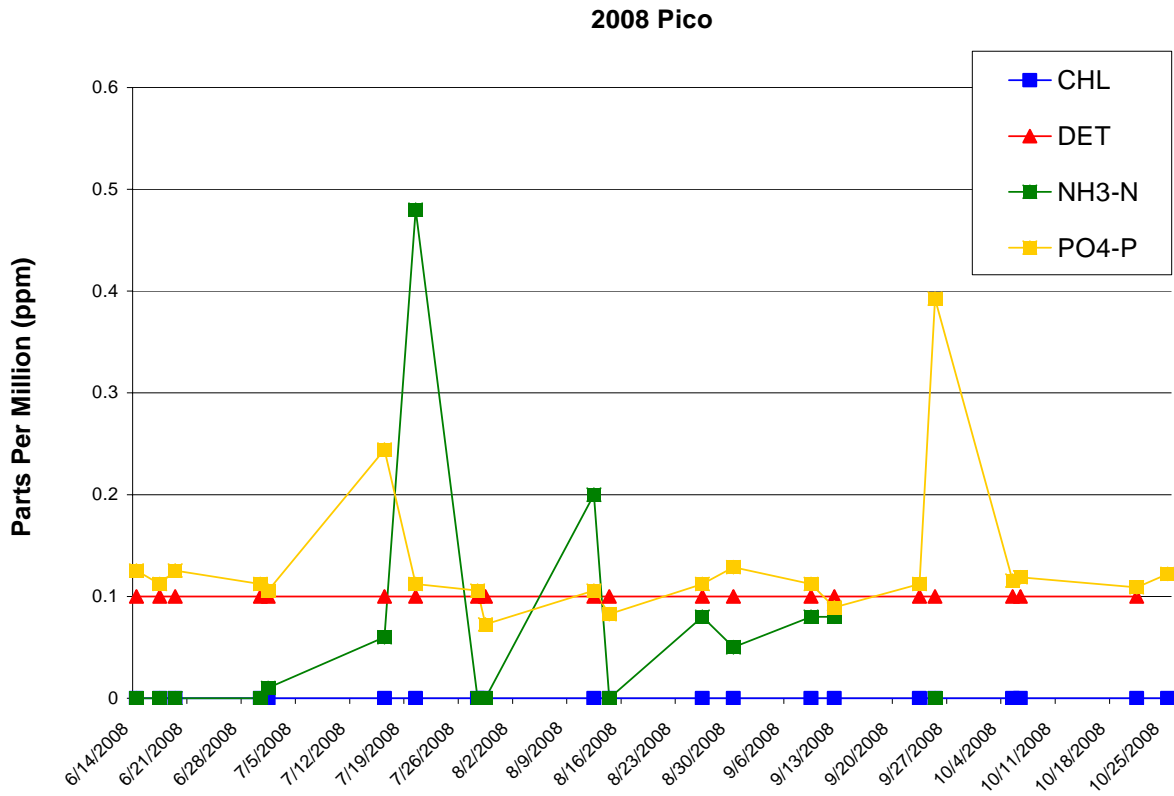
**Figure 4. Seasonal trends for analytes at Congress, 2008.**

Bacteria samples were taken at Congress each month of the season. The average concentration of total coliform was 26,907 MPN/100ml. The average concentrations for *E.coli* and enterococcus was 10,247 MPN/100ml and 5,910 MPN/100ml, respectively (Table 2).

**Pico**

Pico is usually the cleanest site in Pacific Grove, especially for trash. This year, total ammonia was generally low (< 0.1 ppm), but on July 20<sup>th</sup> it was 0.48ppm and on August 12<sup>th</sup> it was 0.2ppm. Detergent concentrations were always <0.1ppm, and chlorine was always <0.2 ppm (both non-detect). Orthophosphate levels were consistently close to the WQO of 0.12 ppm, averaging 0.13 ppm for the season (Figure 5).

Trash was recorded seven times at Pico, up from three times last year, and was removed each time. There was no sewage smell reported the entire season. Oil sheen was never detected, and scum or bubbles were reported 13 times. (Some types of “scum” or “bubbles” can come from natural sources). A musty or septic odor was detected at the site on October 6<sup>th</sup>. The average water temperature for Pico was 15.2° C.



**Figure 5. Seasonal trends for analytes at Pico, 2008.**

Bacteria samples were taken in June, July, August, and September at Pico. The average concentration of total coliform for the season was 15,385 MPN/100ml. The average concentrations of *E.coli* and enterococcus for the season was 1356 MPN/100ml and 2210 MPN/100ml, respectively (Table 2).



## **Conclusion**

The Urban Watch program is an important component for the City in fulfilling the Minimum Control Measures set forth by the Monterey Regional Stormwater Management Program. Specifically, the monitoring conducted by Urban Watch volunteers helps the city to fulfill its requirements of public participation and involvement, whereas the Backyard to Bay events fulfill requirements toward public education and outreach.

The 2008 Urban Watch monitoring season was successful in that it reached a larger number of the public through volunteer recruitment and Backyard to Bay events. These events were also helpful recruiting volunteers for next year's program. Over half of our volunteers were those returning from previous years, which provided new volunteers with additional resources and oversight.

All sites were monitored four times a month (when flowing) from June until the first of November, when the first significant rain event of the season fell. All sites had random spikes of ammonia, detergent, and orthophosphate. Orthophosphate levels at all sites were generally above the WQO of 0.12 ppm. Once converted, we found that none of the total ammonia values exceeded the ammonia-N WQO of 0.025ppm. Twenty-two times, detergent levels were above 0.1ppm; eight of those occurred at Greenwood Park. This seems much higher than last year, but sites were sampled until November instead of September (last year's First Flush occurred on September 22<sup>nd</sup>, significantly shortening the UW season). All chlorine detections (above 0.2 ppm) occurred at Congress.

Bacteria levels were highest at Greenwood Park and Congress for the season. However, all the sites averaged over the WQO's for the entire season. It would be useful to conduct a study to find not only where the bacteria is entering the storm drain, but also the source of *E.coli* bacteria (i.e. human or other) found in the City's storm drain system.

Upstream source tracking is recommended in the Greenwood Park watershed to look for sources of detergent. The PG High School pool needs to be fixed, then further testing at Congress will be needed to ensure that no more chlorine is entering the storm drain. Orthophosphate levels were high across all sites and source tracking of orthophosphate would be beneficial.

Thanks to our dedicated volunteers, a large amount of trash was cleaned up from the areas around the five Pacific Grove storm drains we sampled. Without these volunteers, this trash would have probably ended up in Monterey Bay and potentially into an Area of Special Biological Significance. We would like to thank our volunteers for their time monitoring the quality of storm drain runoff in Pacific Grove and for their efforts in cleaning up the city. Without them, none of this would be possible.



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309-PGSD-06	8/14/08	9:52:00 AM	TRUE	FALSE	FALSE	13.5	0.2	97	340	0.1	0.69	6.5	0.04	0.01	16.9
309-PGSD-06	8/26/08	6:22:00 PM	TRUE	FALSE	FALSE	17	0.2	93	2.6	0.1	1.35	7.5	0.13	0.04	17.6
309-PGSD-06	8/30/08	10:42:00 AM	TRUE	FALSE	TRUE	17	0	36	1950	0.1	1.54	7.5	0.17	0.06	17.9
309-PGSD-06	9/9/08	11:20:00 AM	FALSE	FALSE	FALSE	15.9	0.2	91	1.1	0.1	1.4	7	0.03	0.01	17.4
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309-PGSD-06	9/23/08	8:05:00 AM	FALSE	FALSE	FALSE	16.4	0	93	1310	0.2		7	0.42	0.14	18.4
309-PGSD-06	9/25/08	6:35:00 PM	FALSE	FALSE	FALSE	15.2	0.2	93	1400	0.1	0	7	0.33	0.11	15.2
309-PGSD-06	10/5/08	3:10:00 PM	TRUE	FALSE	FALSE	18.5	0.2		1360	0.1		7	0.41	0.14	18.4
309-PGSD-06	10/6/08	10:37:00 AM	TRUE	FALSE	FALSE	15.7	0.2		400	0.1		6.5	0.57	0.19	18.6
309-PGSD-06	10/21/08	3:09:00 PM	TRUE	FALSE	FALSE	18.6	0.2	93	0.7	0.1		7	0.51	0.17	17.4
309-PGSD-06	10/25/08	9:05:00 AM	TRUE	FALSE	FALSE	11.3	0.2	93	1680	0.1		6.5	0.54	0.18	16.9
309-PGSD-09	6/17/08	10:26:00 AM	TRUE	FALSE	FALSE	13.6	0.2	96	4.5	0.2	0	7	0.64	0.21	14.7
309-PGSD-09	6/19/08	10:07:00 AM	TRUE	FALSE	FALSE	18.5	0.2	92	4.1	0.1	0	6.5	0.69	0.23	16.9
309-PGSD-09	6/30/08	4:55:00 PM	TRUE	TRUE	FALSE	18.5	0.2	92	2500	0.1	0	6.5	0.67	0.22	17.3
309-PGSD-09	7/1/08	4:39:00 PM	TRUE	FALSE	FALSE	17.6	0.2	93	2300	0.1	0.02	7	0.82	0.27	17
309-PGSD-09	7/16/08	10:08:00 AM	TRUE	FALSE	TRUE	16.5	0.2	92	2300	0.1	1.27	7	1.35	0.45	18.1
309-PGSD-09	7/28/08	4:05:00 AM	TRUE	FALSE	FALSE	17.8	0.2	110	1600	0.7	1.61	6.5	2.75	0.91	17.3
309-PGSD-09	7/28/08	4:05:00 AM	TRUE	FALSE	FALSE								2.75	0.91	
309-PGSD-09	7/29/08	4:20:00 PM	FALSE	FALSE	FALSE	22.3	0.2	93	1.9	0.1	0	6.5	0.45	0.15	18
309-PGSD-09	8/12/08	8:34:00 AM	TRUE	FALSE	TRUE	14	0.2		3.9	3	0.39	7	0.68	0.22	16.7
309-PGSD-09	8/26/08	4:46:00 PM	TRUE	FALSE	FALSE	22	0.2	93	1.6	0.1	0.07	7	0.54	0.18	18.3
309-PGSD-09	9/9/08	10:30:00 AM	TRUE	FALSE	FALSE	63	0.2	91		0.1	0.03	7	0.4	0.13	
309-PGSD-09	9/12/08	9:30:00 AM	TRUE	FALSE	FALSE	17.5	0.2	93	1710	0.2	0	7	0.48	0.16	16.8