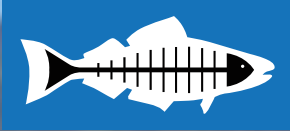


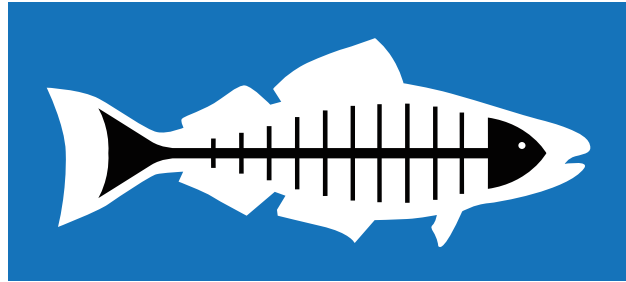
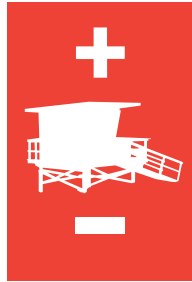
Heal the Bay's

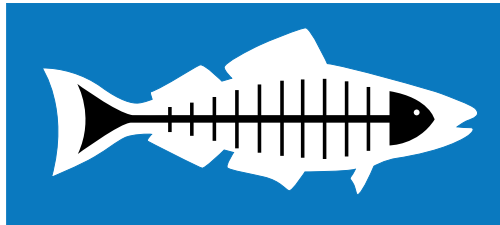
2011-2012 Annual Beach Report Card

BEACH REPORT CARD



BEACH REPORT CARD





Heal the Bay

Heal the Bay is a nonprofit environmental organization making Southern California coastal waters and watersheds, including Santa Monica Bay, safe, healthy and clean. We use science, education, community action and advocacy to pursue our mission.

The Beach Report Card program is funded by grants from

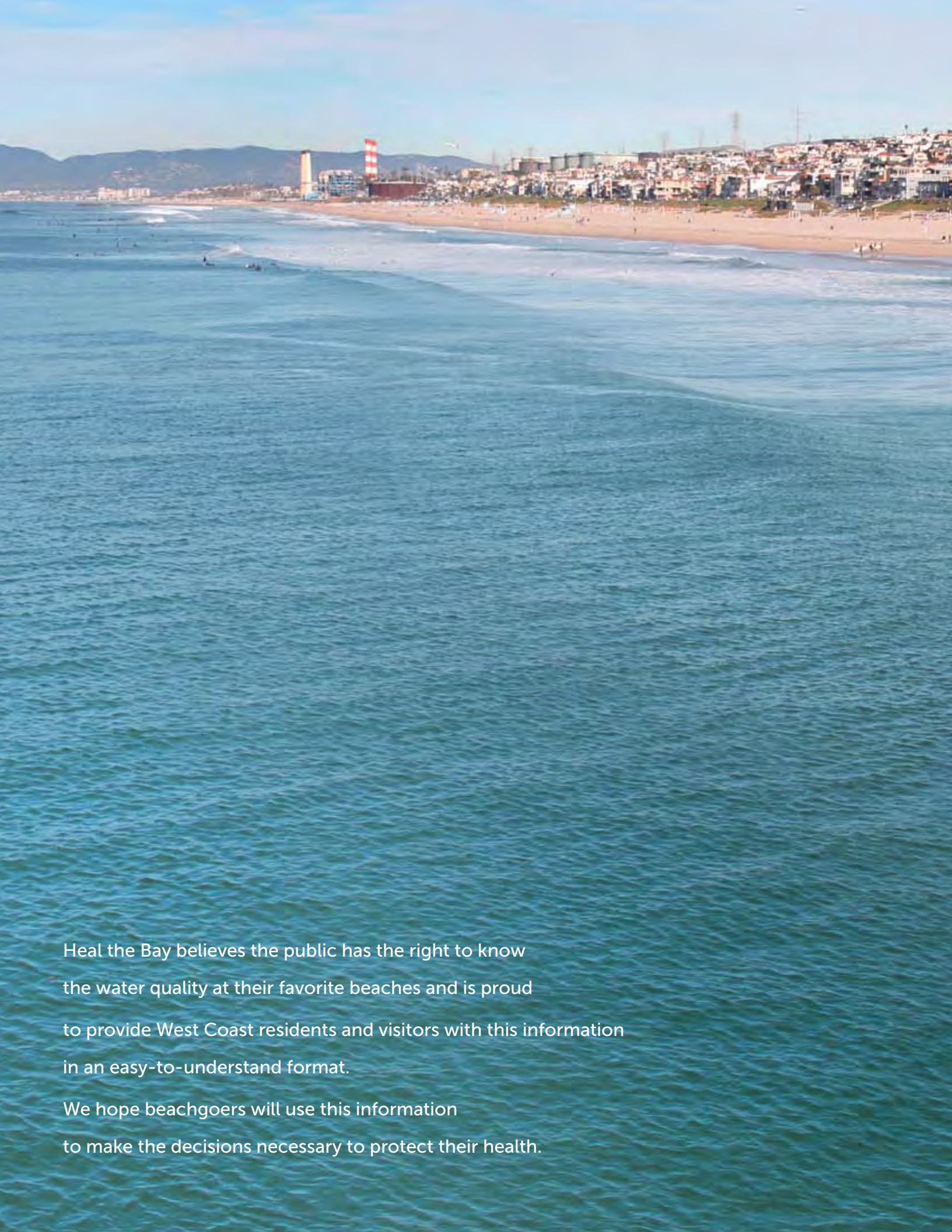
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Heal the Bay believes the public has the right to know the water quality at their favorite beaches and is proud to provide West Coast residents and visitors with this information in an easy-to-understand format.

We hope beachgoers will use this information to make the decisions necessary to protect their health.

BEACH REPORT CARD

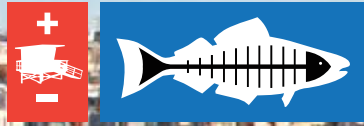


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Redondo Beach, south of the pier

Summer Dry

B

Winter Dry

C

Wet Weather

C





Executive Summary

Ocean water quality monitoring is vital to ensuring the health protection of the millions who recreate in coastal waters. Since the Annual Beach Report Card was first published more than 20 years ago, beachgoers throughout California have come to rely on the annual grades and weekly grades as a vital public health protection tool.

The 2011-2012 Annual Beach Report Card (BRC) grades more than 650 locations along the West Coast for summer dry weather and more than 300 locations year-round on an A-to-F scale. The grades represent the risk of adverse health effects to beachgoers. The better the grade a beach receives, the lower the risk of illness.

The BRC includes an analysis of water quality for three time periods: summer dry season (the months covered under AB 411 in California – April through October), winter dry weather (November 2011 through March 2012) and year-round wet weather conditions. In addition to summarizing marine water quality, the report includes a brief review of the number of sewage spills that impacted beach recreational waters over the past year. The information derived from this analysis is used to develop recommendations for cleaning up problem locations to make them safe for beach users.

West Coast Beach Water Quality Overview

The Pacific Northwest saw very good water quality this year. Washington locations were typically clean with 91% of the 226 monitoring locations receiving A and B grades. All 27 of Oregon's regularly monitored (weekly) locations received A grades.

Oregon and Washington monitor beach water quality at most locations from Memorial Day through Labor Day only. Twelve monitoring locations in Washington were monitored consistently throughout the winter this past year and have earned grades for all three time periods in this report.

Overall, beaches in California had very good to excellent water quality this past year, with 407 of 441 (92%) of locations receiving very good to excellent (A or B) grades during the summer dry weather period.

California's coastline was routinely monitored between San Francisco and San Diego County from April 2011 through March 2012. Many counties monitor beaches year-round due to the generally mild winter weather, making beach water recreation possible year-round. The northernmost California counties (Humboldt through Marin) did not monitor beaches consistently throughout the winter.

Southern California (Santa Barbara through San Diego) summer dry weather grades (92% A or B grades) were on par with the statewide average. Summer dry weather grades in the San Francisco Bay area (Marin through San Mateo) were excellent with 98% (42 of 43) of ocean-side locations receiving an A or B grade. The bay-side's water quality improved modestly from last year with 88% of monitoring locations (23 of 26) receiving A or B grades (up 15%).

The disparity between dry and wet weather water quality in California continues to be dramatic and demonstrates that not enough is being done to successfully mitigate storm water runoff pollution.



View of Santa Monica and Will Rogers Beaches

An important tool that will help improve beach water quality in California is the implementation of Low Impact Development (LID) ordinances and permit requirements. LID requires builders of new developments and certain retrofits to use design techniques to retain stormwater and prevent runoff flows that often transport pollution to our beaches. Some LID measures include use of rain barrels, permeable pavement, cisterns, and rain gardens. Widespread use of LID also has the benefit of increasing local freshwater supplies by infiltrating stormwater to help replenish local aquifers.

This year's wet weather water quality grades did show a 10% improvement over last year's grades, with 64% of the 334 locations monitored receiving A or B grades. In Southern California, 58% of sampling locations earned A or B wet weather grades (up 8% from last year). This past year wet weather grades were better (by about 10%) than the five-year average for both Southern California and statewide (most likely due to California rainfall being about half the amount of the previous year).

A list of all grades can be found in Appendix C1-C3.



Good grades for all three time periods this year were above the 5-year average

Los Angeles County was host to seven out of the 10 beaches on the Beach Bummers list. Five are located in Malibu.



California Overview

California's overall water quality during the summer dry time period this past year was very good and right on par with the five-year average (Figure 1-1). There were 34 monitoring locations (8%) that received fair to poor water quality marks (C-F grades) during the same time period.

During winter dry weather, most California beaches had very good water quality with 276 of 314 (88%) locations receiving A or B grades. Lower grades during the same time period include: 12 Cs (4%), 9 Ds (3%) and 17 Fs (5%). Southern California dry weather grades (87% A and B grades) were also in line with the statewide average. Los Angeles County again exhibited some of the lowest grades in the state (81% A and B grades).

In the San Francisco Bay Area, summer dry weather grades were excellent on the oceanside with 98% (42 of 43) of the locations receiving A or B grades, and very good on the bayside with 23 of 26 (88%) receiving A or B grades. Only 33 of 69 (48%) of Bay Area locations were monitoring consistently throughout the winter. Winter dry weather water quality at oceanside monitoring locations was excellent with all 18 monitoring locations receiving an A or B grade, and poor on the bayside with only nine of 15 (60%) receiving A or B grades.

FIGURE 1-1: OVERALL CALIFORNIA GRADES

Summer Dry (April thru October)



Winter Dry (November thru March)



Wet Weather

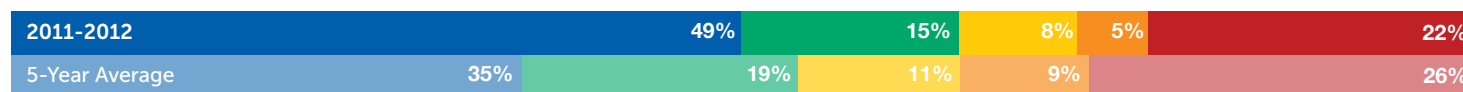


FIGURE 1-2: OVERALL SOUTHERN CALIFORNIA GRADES

Combined grades for Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties

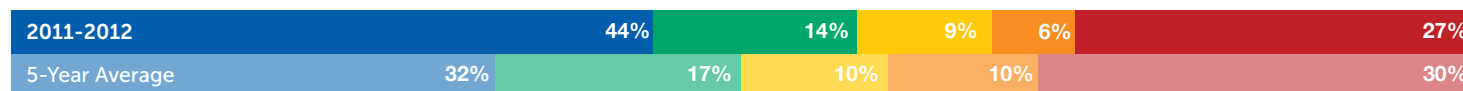
Summer Dry (April thru October)



Winter Dry (November thru March)



Wet Weather



KEY: A B C D E

During wet weather, 36% of California's monitoring locations received fair-to-poor grades with 22% earning F grades (Figure 1-1). This marked seasonal difference in water quality is why Heal the Bay and California's public health agencies continue to recommend that no one swim in recreational waters during, and for at least three days after a significant rainstorm.

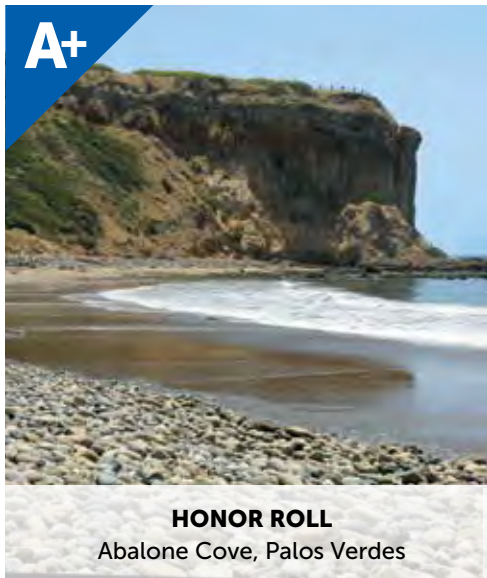
With the exception of educational programs, there have been no major efforts made by public agencies along the coast to target reductions in fecal bacteria densities in storm water.

BRC Honor Roll

In general, open ocean beaches with no known pollution sources have excellent water quality during summer dry weather, with a five-year average of 98% A grades. Other beach types, such as storm drain impacted or enclosed beaches are more inconsistent in upholding high water quality grades. The same inconsistencies are seen between summer dry, winter dry and wet weather grades at enclosed or storm drain impacted beaches. Summer dry weather grades are generally superior to winter dry and wet weather grades.

A select few monitoring locations (65 of 314 [21%]) in California exhibited excellent water quality during all three time periods and have been appointed to California's Honor Roll this year.

A list of Honor Roll recipients can be found in Appendix B.



HONOR ROLL
Abalone Cove, Palos Verdes



HONOR ROLL
Dockweiler Beach at Westchester drain



HONOR ROLL
St. Malo Beach, Oceanside

California Beach Bummers

Numerous California beaches vied for the “Beach Bummer” crown this year – the monitoring location with the poorest dry weather water quality. Seven of the 10 most polluted beaches in the state this past year were in Los Angeles County (Figure 1-3). They include:

Avalon Beach. This is Avalon’s 11th appearance on the bummer list since 1999 and its fourth year in the infamous No. 1 position of California’s most polluted beach. Avalon’s failing water quality grades are most likely attributed to the island’s corroded sewer infrastructure.

Cowell Beach. Last year’s No. 1 most polluted beach in the state, Cowell Beach in Santa Cruz County narrowly missed the top Beach Bummer position this year, coming in as the second most polluted beach in the state. The source of Cowell Beach’s exceedances has yet to be discovered.

Puerco Beach @ Marie Canyon. This is the third year since routine sampling started in 2006 that Marie Canyon’s storm drain at Puerco Beach has earned a spot on the Beach Bummer list. Decomposing kelp and algae on the beach may be contributing to Marie Canyon’s poor water quality and their spot as No. 3 on the list.

Surfrider Beach. Surfrider Beach is no stranger to the Beach Bummer list, having made eight appearances since 1999. This year, Surfrider is the fourth most polluted beach in the state. Poor water quality grades appear to correlate with conditions in Malibu Lagoon.

Solstice Canyon. Dan Blocker County Beach at Solstice Creek makes its Beach Bummer debut this year taking the No. 5 slot. The exact pollution source for Solstice Canyon is unknown, however upstream pollution may be contributing to exceedances.

California “Quick-Look”

San Diego County. San Diego continued to exhibit excellent beach water quality, with 93% of all monitoring locations receiving an A grade during summer dry weather. Winter dry weather water quality was also excellent with 93% A grades. During wet weather 77% of locations received an A or B grade, besting both the five-year average for San Diego (68%) and this year’s statewide average (64%). *For more information, see page 16.*



BEACH BUMMER
Avalon, Catalina Island



BEACH BUMMER
Cabrillo Beach (harborside)



BEACH BUMMER
Poche Beach, San Clemente

FIGURE 1-3.
2011-2012
TOP TEN BEACH BUMMERS

	BEACH/COUNTY	GRADE
1	Avalon Harbor Beach, Catalina Island Los Angeles County	F
2	Cowell Beach, Santa Cruz Santa Cruz County	F
3	Puerco Beach @ Marie Canyon, Malibu Los Angeles County	F
4	Surfrider Beach, Malibu Los Angeles County	F
5	Solstice Canyon Beach, Malibu Los Angeles County	F
6	Cabrillo Beach, San Pedro harborside at restrooms Los Angeles County	F
7	Doheny State Beach at San Juan Creek, Dana Point Orange County	F
8	Poche Beach Orange County	F
9	Escondido Beach, Malibu Los Angeles County	F
10	Topanga State Beach Los Angeles County	F

Orange County. Water quality in Orange County was excellent this year with 94% A or B grades (89% were A grades). Beach water quality during the winter dry weather was also very good with 87% A or B grades. Wet weather grades were fair (69% A or B grades) and bested the five-year average by 15%. Two Orange County beaches appear on the dreaded Beach Bummer list: Doheny State Beach at San Juan Creek outlet (No. 7) and Poche Beach (No. 8). *For more information, see page 19.*

Los Angeles County. Summer dry weather water quality in Los Angeles improved 7% from last year with 82% A or B grades. Winter dry water quality was nearly the same as summer dry water quality with 81% A or B grades (besting the five-year average by 13%). Wet weather water quality in Los Angeles continues to be poor overall with 49% of monitoring locations receiving F grades this year (27% worse than the state average).

Los Angeles County was also host to seven out of the 10 beaches on the statewide Beach Bummer list this year: Topanga State Beach at the creek mouth (No. 10), Escondido State Beach at Escondido Creek (No. 9), Cabrillo Beach harborside (No. 6), Dan Blocker County Beach at Solstice Creek (No. 5), Surfrider Beach at the Malibu Lagoon outlet (No. 4), Puerco Beach at the Marie Canyon storm drain (No. 3) and Avalon Harbor Beach on Catalina Island (No. 1). *For more information, see page 23.*

Ventura County. Summer dry and winter dry weather water quality grades in Ventura County were excellent this year, with 100% of all locations receiving A grades for both time periods. Wet weather water quality was also excellent with 19 of 21 (90%) locations receiving A or B grades. This year Ventura County bested its five-year average for all three time periods. *For more information, see page 30.*

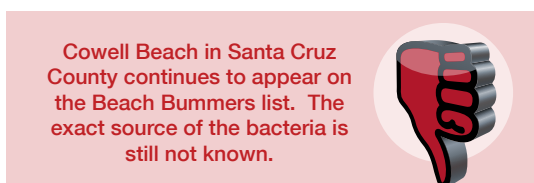
Santa Barbara County. Santa Barbara displayed excellent water quality grades this year, receiving 93% A or B grades during both summer and

winter dry weather. Water quality was poor during wet weather with only 40% A or B grades – below both the county’s five-year and this year’s statewide average. *For more information, see page 31.*

San Luis Obispo County. Water quality was excellent this year in San Luis Obispo during both summer and winter dry weather with 100% A or B grades during both time periods. Wet weather grades were very good with 89% A or B grades (9% above the five-year county average and 25% better than the statewide average). *For more information, see page 33.*



Monterey County. Monterey County received very good water quality grades during summer dry weather with 88% A or B grades. Wet weather water quality was also very good with 88% A or B grades. Monitoring locations were not sampled frequently enough during winter to receive a grade. *For more information, see page 34.*



Santa Cruz County. Only three out of 13 (23%) beaches received below an A or B grade in Santa Cruz County during summer dry weather. Winter dry grades were excellent with 92% of locations receiving an A or B grade. Water quality was also very good during wet weather (83% A and B grades), besting the County’s five-year average by 30%. Cowell Beach is the only beach in Santa Cruz County to earn a spot on this year’s Beach Bummer list. Last year Cowell Beach was designated as the No. 1 polluted beach in the state. This year, Cowell Beach took the No. 2 slot. *For more information, see page 35.*

San Mateo County. San Mateo’s summer dry grades were good this year with 82% A or B grades, although below the county’s five-year average of 96%. During winter dry weather, 76% of monitoring locations received an A or B grade. Wet weather water quality was fair this year with 71% A or B grades, besting both the county’s five-year (65%) and statewide average. *For more information, see page 36.*

San Francisco County. This year San Francisco earned excellent water quality grades during summer dry weather with all locations receiving A or B grades (71% A grades). Winter dry weather grades were also excellent with 93% of monitoring locations receiving A or B grades (exceeding the county’s five-year average by 22%). Wet weather grades show only three of 14 beaches (21%) earning below an A or B grade. *For more information, see page 37.*

East Bay Beaches (Contra Costa And Alameda Counties). Water quality grades for East Bay beaches were excellent this year, with all locations receiving A or B grades during summer dry weather. Winter dry grades were also very good with five of six (83%) locations receiving A grades. Only two out of seven locations earned below an A or B grade (29%) during wet weather (7% better than the statewide average). *For more information, see page 40.*

Marin County. Marin County earned excellent water quality grades this year with 87% A grades and 13% B grades during summer dry weather. Monitoring locations were not sampled during the winter. *For more information, see page 41.*

Sonoma County. Sonoma County earned excellent water quality grades this year with 100% of monitoring locations receiving A grades during summer dry and wet weather (both exceeding the county’s five-year average). Monitoring locations were not sampled frequently enough during winter to earn grades for that time period in this report. *For more information, see page 42.*

Mendocino County. All four monitoring locations in Mendocino County received A grades during summer dry weather this year. Monitoring locations were not sampled frequently enough during the winter to earn grades for any other time period. *For more information, see page 42.*

Humboldt County. Humboldt County earned very good water quality grades (80% A or B grades) this year, with only a single location receiving a grade lower than an A or B. These grades are slightly below the county's five-year average of 96% A or B grades. Monitoring locations were not sampled frequently enough during the winter to receive grades for any other time period. *For more information, see page 43.*

Del Norte County. A single monitoring location (Battery Point Lighthouse) in Del Norte County is sampled regularly (once a month) but not frequently enough to receive a grade in this report.



FIGURE 1-4: BEACH BUMMERS FOR PAST SIX YEARS

Beaches listed in **BOLD** appear on the current 2011-2012 Beach Bummers list.

2007	2008	2009	2010	2011	2012
Long Beach	Avalon	Avalon	Avalon	Cowell Beach	Avalon
Castle Rock	Santa Monica Pier	Cabrillo Beach	Cowell Beach	Avalon	Cowell Beach
Puerco Beach @ Marie Canyon	Poche Beach	Pismo Beach Pier	Cabrillo Beach	Cabrillo Beach	Puerco Beach @ Marie Canyon
Avalon	Doheny State Beach	Colorado Lagoon	Poche Beach	Topanga State Beach	Surfrider Beach
Surfrider Beach	Puerco Beach @ Marie Canyon	Santa Monica Pier	Santa Monica Pier	Poche Beach	Solstice Canyon
Santa Monica Pier	Cabrillo Beach	Long Beach	Colorado Lagoon	Doheny State Beach	Cabrillo Beach
Campbell Cove	Long Beach	Poche Beach	Baker Beach	Arroyo Burro Beach	Doheny State Beach
Venice Beach	Clam Beach	Surfrider Beach	Capitola Beach	Baker Beach	Poche Beach
Arroyo Burro	Campbell Cove	Campbell Cove	Mission Bay	Colorado Lagoon	Escondido State Beach
Cabrillo Beach	Park Beach	Doheny State Beach	Will Rogers Beach	Capitola Beach	Topanga State Beach



Topanga State Beach, Malibu

Summer Dry
F

Winter Dry
C

Wet Weather
F



Little Dume at Zumirez Drive, Malibu

Summer Dry

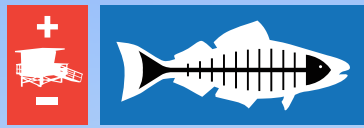
D

Winter Dry

A

Wet Weather

F



THE BEACH REPORT CARD

The Beach Report Card (BRC) is based on the routine monitoring of beaches conducted by local health agencies and dischargers. Water samples are analyzed for bacteria that indicate pollution from numerous sources, including fecal waste. The better the grade a beach receives, the lower the risk of illness to ocean users.

Storm drain runoff is the greatest source of pollution to local beaches, flowing untreated to the coast and often contaminated with motor oil, animal waste, pesticides, yard waste and trash.

Health officials and Heal the Bay recommend that beach users never swim within 100 yards on either side of a flowing storm drain, in any coastal waters for at least three days following a rain event.



San Diego County

There are five agencies within San Diego County that provided monitoring information directly to Heal the Bay's Beach Report Card (BRC):

- The City of Oceanside
- The City of San Diego
- Encina Wastewater Authority
- San Elijo Joint Powers Authority
- The County of San Diego Department of Environmental Health (DEH)

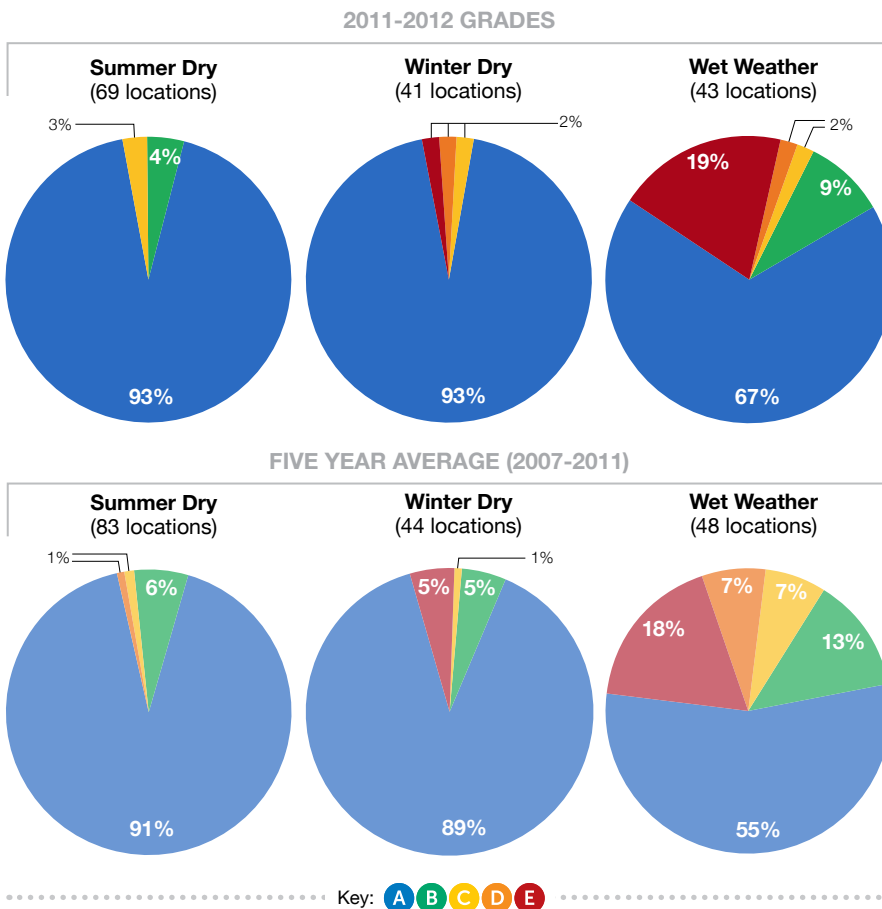
A majority of the 69 monitoring locations monitored during summer dry weather and covered by the BRC were sampled and analyzed by the City and County of San Diego. Samples were generally collected at the wave wash (where runoff and ocean water mix) or 25 yards away

from a flowing storm drain, creek or river.

Beach water quality during summer dry weather in San Diego County was excellent. Of the 69 summer dry weather monitoring locations, 97% received good to excellent water quality marks (Figure 2-1). The county's water quality during the winter dry weather was also excellent with 93% of the monitored locations receiving A or B grades, however only 41 of 69 (60%) locations were sampled during the winter compared to the summer.

Figure 2-1 illustrates San Diego County's water quality grades for this year compared to the past five-year average. The percentage of wet weather A and B grades was up slightly from last year with 77% A and B grades this year, besting the five-year average of 68%.

FIGURE 2-1: SAN DIEGO COUNTY BEACHES



Tijuana River Bacterial Source Identification Study

The purpose of the Tijuana River Bacterial Source Identification Study is to identify the natural and anthropogenic sources of fecal indicator bacteria (FIB) in the Tijuana River Watershed and prioritize potential best management practices (BMPs) that reduce bacterial loads from the U.S. portion of the watershed. This study was funded through the Clean Beaches Initiative (CBI). The results of the study will provide a detailed account of the sources, loads and transport mechanisms of bacteria for both wet weather and dry weather conditions in the watershed. The study incorporated for the first time flow monitoring of rogue discharges from the border area, as well as flows from within the U.S. jurisdiction. The study looked at sources of bacteria from Jurisdictional MS4s, agriculture land use, horse stables, groundwater, sediment stock piles and cross-border flows. The project also used state-of-the-art molecular methods for bacteria source tracking and used key pathogens – such as viruses – to identify sources that



St. Malo Beach, Oceanside

Summer Dry	Winter Dry	Wet Weather
A+	A+	A

pose the greatest risks to public health.

Wet weather monitoring designed to assess flows and FIB loads from the U.S. and Mexican portions of the watershed indicated that the majority of the bacterial load during storm events originates from the Mexican side of the border. Three large storm events have been monitored to date, consisting of samples collected over the course of the storm event (i.e. pollutograph) and analyzed for FIB as well as human-specific bacteroides (an indicator of bacteria originating from human sources). The latter analysis indicated the presence of human fecal contamination in the Tijuana River during storm events.

During dry weather, extensive sanitary surveys consisting of hundreds of samples collected and analyzed for FIB and human-specific bacteroides have been conducted to identify bacterial sources. Rogue flows originating from Mexico during dry weather conditions have been identified as a source of bacteria to the Tijuana River as well as sources on the U.S. side of the border, such as storm drain effluent. Groundwater was monitored for FIB at numerous sites throughout the U.S. side of the watershed. To date, FIB concentrations in groundwater have been low, with few exceptions.

In addition, fate and transport studies using rhodamine dye have been conducted in the City of

Imperial Beach to assess the potential for leaking sewer lines as a source of FIB to the Tijuana River Estuary. The results of FIB and human-specific bacteroides analyses from this study indicate that the sewer system is not a source of bacteria to the estuary and area beaches. It is also important to note that equestrian boarding and agricultural runoff are not significant sources of pollution to the Tijuana River.

The City of Imperial Beach will complete the bacterial source identification study this June 2012. This project was supported through significant technical advisory contribution provided by the State Board, Heal the Bay and Stanford University, as well as stakeholders throughout San Diego County and Mexico.

Based on these results, BMPs are currently being considered, including concept designs to help reduce FIB loads during storm events on the U.S. side of the border as well as monitoring flows that cross to the U.S. side from Mexico that may impact U.S. beaches with FIB.

Sewage Spill Summary

Eleven spills of more than 2.3 million gallons (not including unknown volumes of sewage contamination from the Tijuana River) resulted in numerous San Diego County beach closures this past year (Figure 2-2). The first large (>10,000 gallons) spill occurred on Aug. 28, 2011



Every beach between Carlsbad and Coronado Beach scored an A or A+ during the Summer Dry season.

Rogue flows originating from Mexico have been identified as a source of bacteria to the Tijuana River



with approximately 250,000 gallons reaching Escondido Creek and resulting in closure of San Elijo Lagoon and a portion of Cardiff State Beach for five days.

Then, on Sept. 9, 2011 a massive power outage led to the biggest closure of the year. An estimated >3 million gallons was released to the Los Peñasquitos Lagoon resulting in nearly 10 miles of beach closures from Solana Beach to La Jolla Shores for up to five days. At the same time another major spill of approximately 125,000 gallons spilled into San Diego Bay closing Bayside Park at J Street and Silver Strand bayside beach for five days.

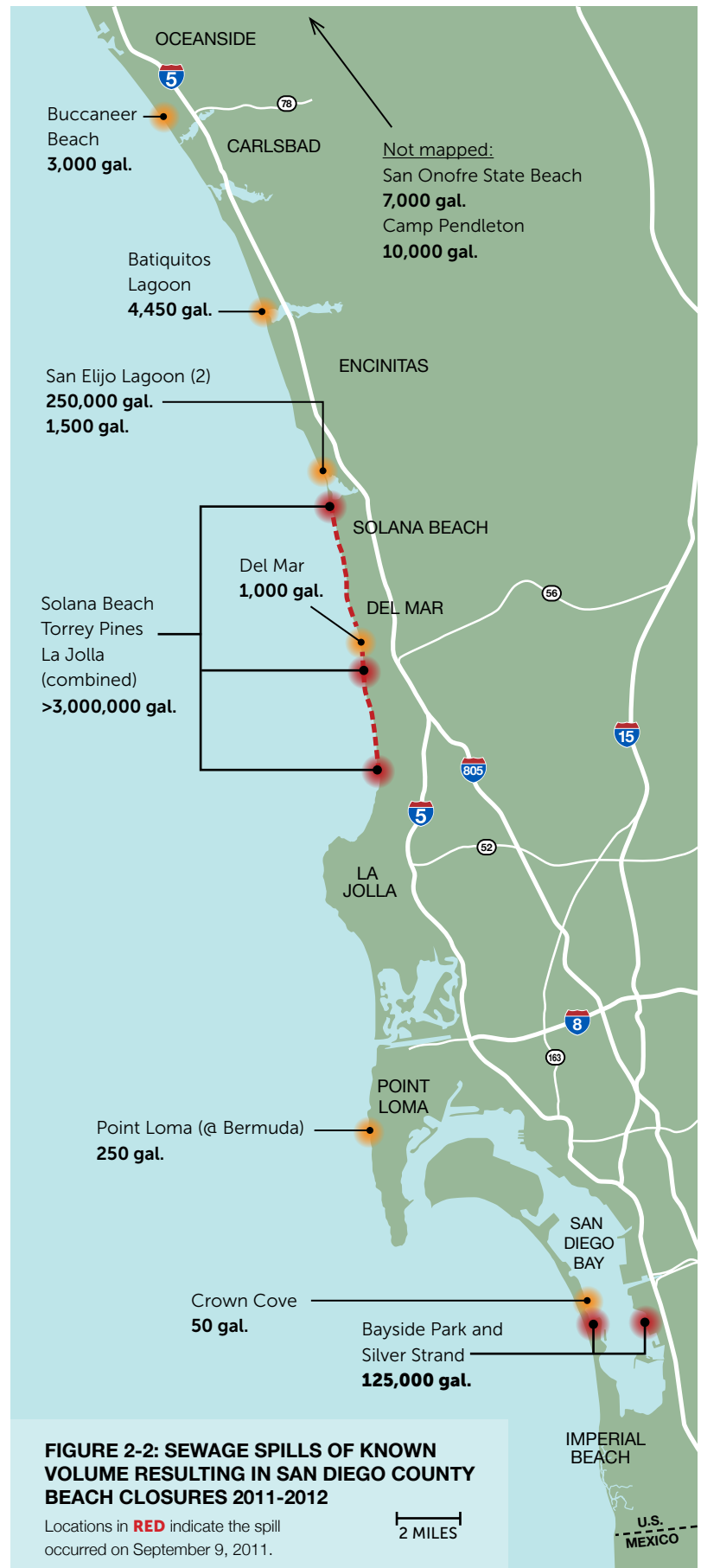
The last large spill was on Feb. 12, 2012 at Camp Pendleton of about 18,000 gallons. 8,000 gallons was recovered but the remaining 10,000 gallons reached the Santa Margarita River and resulted in the closure of Camp Del Mar Beach for five days.

There were 13 beach closure events from Imperial Beach to the U.S. border due to model projections or field observation of sewage contaminated plumes moving north from the Tijuana River Estuary (see page 16 for more info). The four southernmost beaches in San Diego County were closed for a total of 130 days* between April 1, 2011 and March 31, 2012 as a precaution to keep the public from being exposed to sewage contaminated plumes from the Tijuana River. Imperial Beach was included in nine of these closure events. The longest closure was for 52 days at the border beaches from January into March 2012. (*Note: there were 107 fewer closures than last year—most likely due to less rainfall. San Diego had 50% less rain this year compared to last year).

Completion of a secondary sewage upgrade to the International Wastewater Treatment Plant (IWTP), which discharges off Imperial Beach, was completed in early 2011.

Currently, the San Diego Regional Water Quality Control Board is in the process of renewing the International Boundary and Water Commission's NPDES permit. The IWTP has not complied with Clean Water Act standards since the recently completed upgrade to treat wastewater to advanced secondary treatment. The Regional Board is giving the IBWC until August to comply or face legal action.

For additional water quality information:
County of San Diego Department of Environmental Health
www.sdcountry.ca.gov/deh/water/beach_bay.html





Orange County

There are three agencies within Orange County that provide monitoring information to Heal the Bay's Beach Report Card:

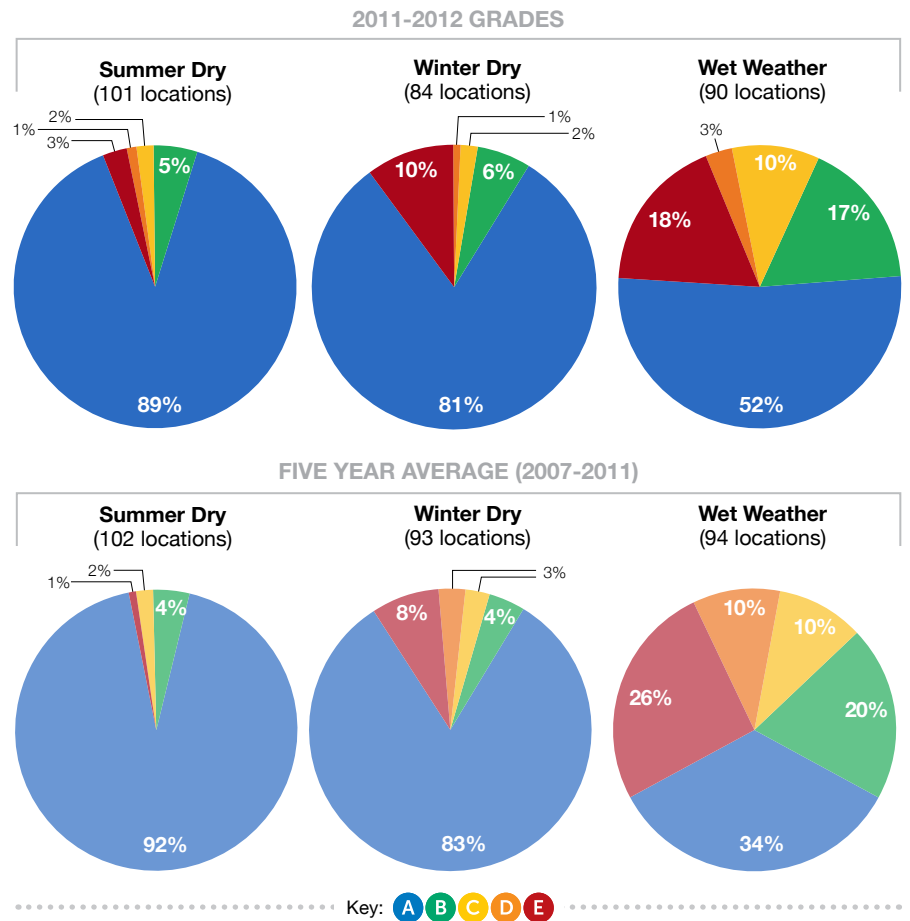
- South Orange County Wastewater Authority
- County of Orange Environmental Health Division
- Orange County Sanitation District (OCSD)

Samples were collected throughout the year along open coastal and bay beaches, as well as near flowing storm drains, creeks or rivers.

Two years ago, Orange County began to integrate the multiple agencies' efforts into a model monitoring program by attempting to integrate the sampling resources of wastewater facilities, storm water programs and environmental health programs. Orange County has begun to eliminate monitoring locations deemed redundant or overlapping and plans to drop consistently clean locations to afford continued monitoring of high-use and problematic locations. Though the Santa Ana Regional Board has not approved Orange County's model monitoring program, they are currently working with the OCSD to allow the model monitoring program to be implemented as part of their National Pollutant Discharge Elimination System (NPDES) permit renewal.

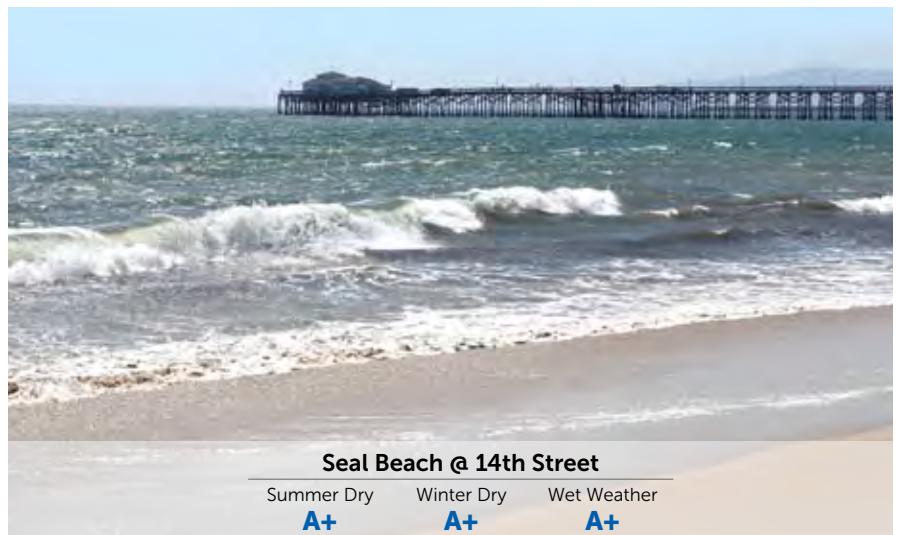
Heal the Bay provided comments on the pro-

FIGURE 2-3: ORANGE COUNTY BEACHES



Twenty beaches between Corona del Mar and South Laguna Beach scored A+ and A grades in both wet and dry weather.

Seal Beach @ 14th Street received A+ grades for all three time periods

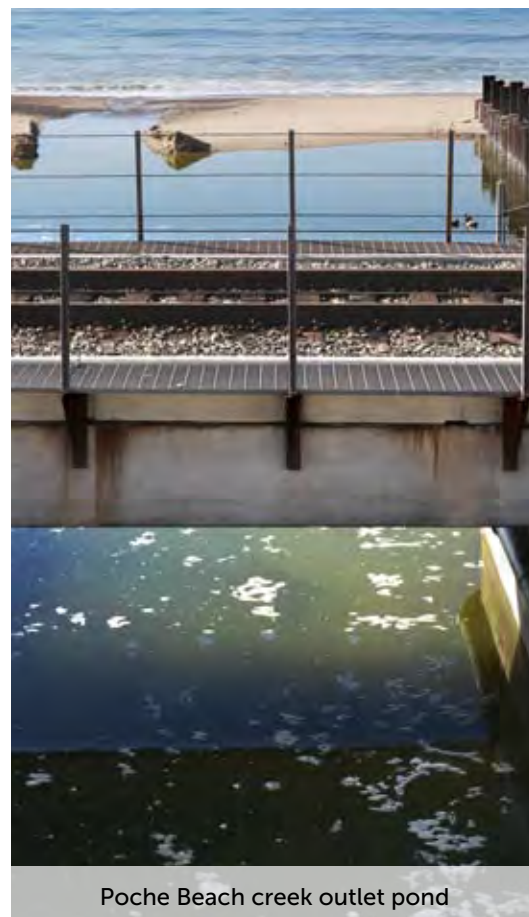





posed plan, recommending that Orange County increase the monitoring frequencies at high-use or high-risk beaches. We also recommended that any allowed decrease in monitoring frequency should be accompanied by a requirement to move beach sample sites to point zero (directly in front of the storm drain and creek flows). Currently, some sample sites are more than 80 yards away from runoff pollution sources.


Orange County monitored 21 fewer beaches year-round this past year than before the state funding problems began, but has essentially maintained the same number of beaches monitored during the summer dry time period. This year, we are hopeful that these monitoring locations will be restored through newly available state monitoring funds (SB 482).

Orange County grades for both summer dry and winter dry weather were excellent. 94% of monitoring locations received an A or B during summer dry weather and 87% received A or B grades during winter dry weather (Figure 2-3). Poche Beach and portions of Doheny State



All seven monitoring sites between Doheny State Beach and 4000 feet south of San Juan Creek received F grades for dry weather during the winter months.





Orange County did not have any sewage spills that resulted in beach closures for 10 months – their longest stretch since record keeping began in 1987.

Beach displayed the only poor water quality grades (F) in the county during the 2011 summer dry weather time period (Figure 2-4).

All seven monitoring sites between Doheny State Beach and 4000 feet south of San Juan Creek received F grades for dry weather during the winter months.

Wet weather water quality in Orange County this past year was similar to last year with 69% of monitoring locations receiving A or B grades during wet weather compared to 64% in 2010-2011.

Figure 2-3 illustrates an assessment of this year's grade percentages at Orange County beaches

compared to the five-year average. Orange County once again displayed excellent summer dry weather water quality grades despite being two percentage points below the dry weather five-year average (96%) with 94% A or B grades this past year. Winter dry weather was also good with 87% A or B grades, on par with the five-year average.

Poche Beach

The Poche Clean Beach Project (CBP) consists of the construction and operation of an urban runoff treatment facility at Poche Beach. The project started in July 2010 and ended in October 2011, where results showed the treatment of urban runoff having little to no effect towards improving beach water quality. State standards for enterococcus continued to persist, resulting in numerous water quality postings throughout 2011.

However, pond outlet bacteria concentrations were reduced greatly in 2011. Results demonstrated that the relocation of the treated discharge from immediately downstream of



North Beach Doheny, Dana Point		
Summer Dry	Winter Dry	Wet Weather
B	F	F



Berm breach at Doheny State Beach @ San Juan Creek

the Poche CBP to the ocean end of the pond was very successful in reducing bacteria out-flow levels from the pond. In spring 2012, the County will meet with the Regional Board to review the 2011 performance results and discuss the conditions of a pond bypass and/or direct ocean discharge of treated runoff. Last year the City performed a watershed bacteria study investigating channel flow, the scour pond and the intertidal area of the beach. The study can be found at: <http://san-clemente.org/sc/Inf/Forms/WaterQuality/download/PocheAnnualWaterQualityReport2011.pdf>

Doheny State Beach


In January 2012, the article "Rapid Indicators for Enterococcus and the Risk of Illness after Exposure to Urban Runoff Contaminated Marine Water" to assess the risk of illness after exposure to urban runoff contaminated marine water was published in Water Research, based on the epidemiology study performed at Doheny State Beach in 2007-2008. The article's main findings suggest an increased risk of swimming-associated gastrointestinal (GI) illness at Doheny State Beach. Doheny State Beach's largest source of contamination is urban runoff from the San Juan Creek, though this creek does not flow to the ocean year-round. When the creek flow is low, a sand berm is formed and creates a bar-

rier between the creek and the ocean. However when the flow is high and the berm is open, untreated creek water flows into the beach water, increasing the risk of swimming-associated GI illness.

Rapid Methods Pilot Projects

In July 2010, the Southern California Coastal Water Research Project (SCCWRP), Orange County Department of Health Services, Orange County Sanitation Districts and other agencies initiated a pilot beach monitoring study using rapid Enterococcus methods. The study took place July 6–Aug. 31, 2010 at nine locations impacted by non-point sources of fecal contamination in Orange County, including three locations at Doheny State Beach and three locations at Huntington Beach. For more information, see "Rapid Methods Pilot Projects" on page 57.

Sewage Spill Summary

Orange County experienced four sewage spills that led to beach closures this past year (down from 16 last year). Two of the spills were >10,000 gallons. The first large spill was ~10,000 gallons on May 12, 2011 which resulted in closure of all of Three Arch Bay in Laguna Beach for two days. The largest spill of ~55,000 gallons occurred on June 18, 2011 and closed beaches in Newport Bay from Newport Dunes to Jamboree Road for three days. However, for almost 10 months (June 21, 2011 to April 6, 2012) Orange County did not have any beach closures, which is unprecedented. According to Orange County records, dating back to 1987, this is the longest stretch of time the county has gone without a single beach closure. 

For additional water quality information:
County of Orange Environmental Health Division
www.ocbeachinfo.com



Los Angeles County

There are five agencies within the County of Los Angeles that contributed monitoring information to Heal the Bay's Beach Report Card:

- City of Los Angeles' Environmental Monitoring Division (EMD) at the Hyperion Sewage Treatment Plant provided daily or weekly beach data for 36 locations.
- The Los Angeles County Department of Public Health Environmental Health program monitored 30 locations on a weekly basis.
- Los Angeles County Sanitation District monitored eight locations weekly.
- City of Long Beach, Environmental Health Division, monitored 15 (down from 25 historically) locations on a weekly basis.
- The City of Redondo Beach solely monitored two locations, in addition to gathering supplemental data at five EMD sites.

All monitoring programs except Long Beach collect samples throughout the year at the

mouth of a storm drain or creek. Most Long Beach monitoring locations are not near storm drains, but the Los Angeles and San Gabriel Rivers receive storm water runoff from approximately 1,500 square miles and they outlet near these beaches.

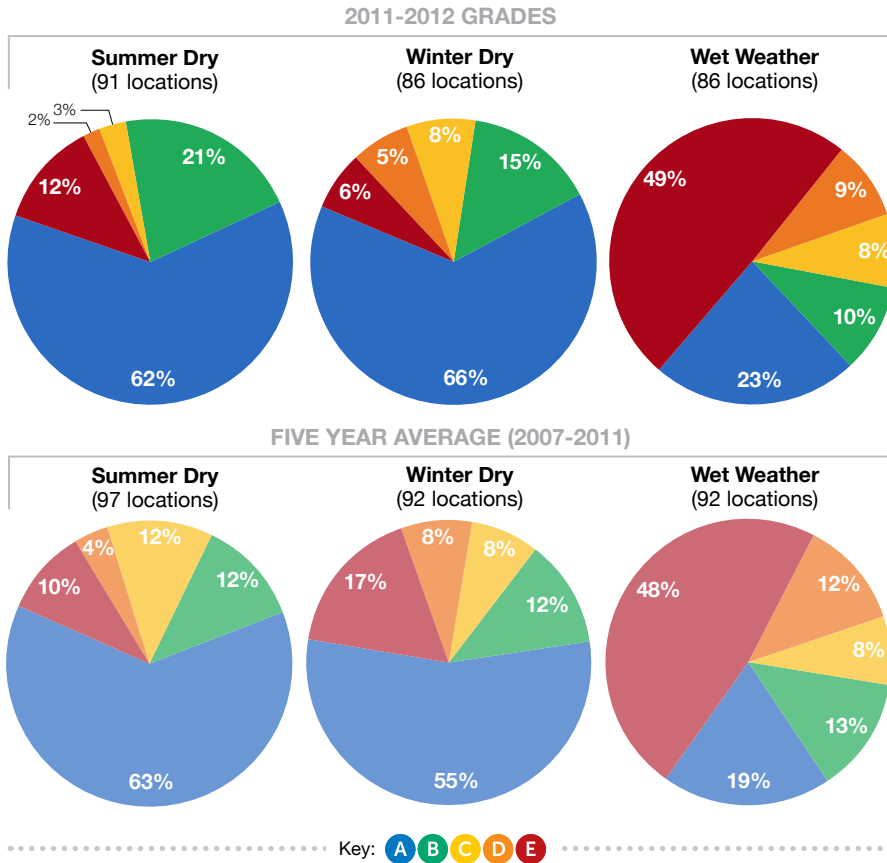
Los Angeles County's monitoring program has been one of the least impacted by the state funding cuts. While other counties shut down or cut back on their ocean water quality monitoring programs, Los Angeles County has been able to continue sampling and protecting public health as before. This is due to the structure of the program and the ability to monitor and track sewage spills between agencies in the county.

This year has been a great year for water quality improvement in Los Angeles County, even though it has seven of the top 10 most polluted beaches in the state. Six of the seven Beach Bummers are located at beaches with no sewer systems. This supports the need for develop-



Santa Monica Bay viewed from the south

FIGURE 2-5: LOS ANGELES COUNTY BEACHES



ing strong and protective Total Maximum Daily Loads (TMDLs) and septic system regulations, in order to begin spearheading beach water quality improvement.

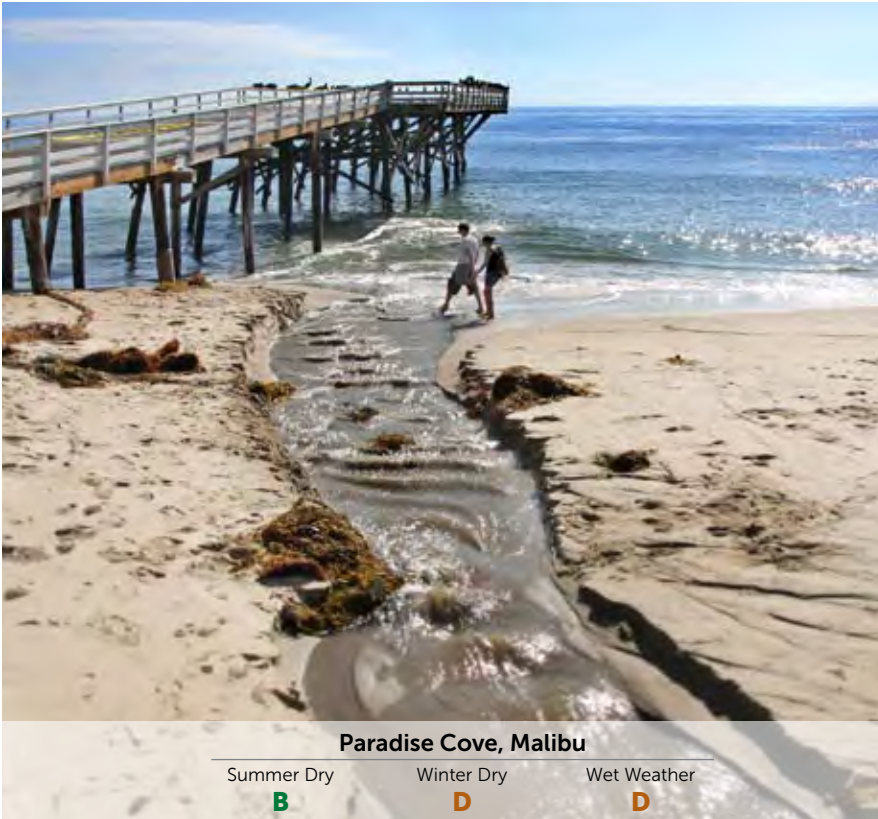
Los Angeles County's summer dry weather water quality improved by seven percent this year to 82% A or B grades, besting the county's five year average of 75%. Winter dry weather water quality was also good with 70 out of 86 monitoring locations (81%) receiving A or B grades, besting the five-year average by 13% (Figures 2-5). This year, there were some stretches of very good to excellent summer water quality including all of Santa Monica Beach locations from Castle Rock Beach to Marina del Rey. The South Bay also saw excellent water quality during the summer months from Marina del Rey all the way to Cabrillo Beach (oceanside), with all locations receiving A or B grades.

Summer dry water quality in Santa Monica Bay was very good last year with 86% of bay beaches (from Leo Carrillo to Palos Verdes) receiving A or B grades during the time period. However, the percentage dipped slightly from last year (91% A or B grades) and was slightly below the five-year average (89%).

Wet weather water quality in Los Angeles County showed poor results overall with only 29 of 86 (34%) receiving A or B grades, though slightly improved compared to 29% last year. Fifty-seven of 86 (66%) of sample sites received fair-to-poor grades and 42 out of 86 (49%) of sample sites earned an F grade. Los Angeles wet weather water quality this past year was 2% better than the county's five-year average although it remained well below the statewide average of 64% A or B grades.

Los Angeles County's move to sample at the mouth of flowing storm drains and creeks due to the Santa Monica Bay Beach Bacteria TMDL has historically contributed to the county's grades being well below the state average. However, it is important to note that the discrepancy among counties should not solely be attributed to the sampling location. For exam-





ple, the beaches at Avalon and Cabrillo had very poor water quality again this year even though storm drains are not a major contributor to pollution at these locations.

Heal the Bay believes that sampling at the outfall (point zero) of drains and creeks gives a more accurate picture of water quality and is far more protective of human health. Statewide, most monitoring locations associated with storm drains or creeks are actually sampled at a substantial distance from the outfall.

Avalon Beach

Four out of five monitoring locations at Avalon Beach received an F grade with one location receiving a D grade during summer dry weather. Although all five monitoring locations consistently exceed state bacteria standards, the City of Avalon has made great strides towards improving beach water quality. This past year the city focused on identifying and replacing corroded sewer infrastructure, updating the wastewater treatment plant and streamlining routine sewer and treatment plant maintenance. Though these improvements are long overdue, Heal the Bay remains positive and anticipates greatly improved beach water quality at Avalon Beach, hopefully as soon as this summer.

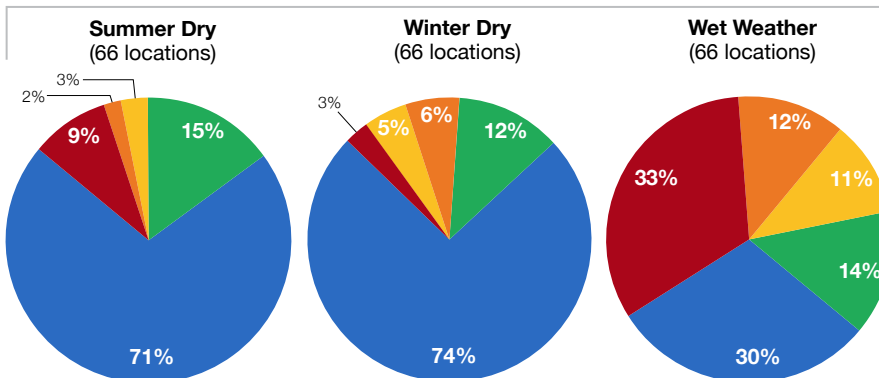
Paradise Cove

This year, Paradise Cove improved from a D to a B grade during the summer dry weather time period but it still received D grades during the winter dry and wet weather periods.

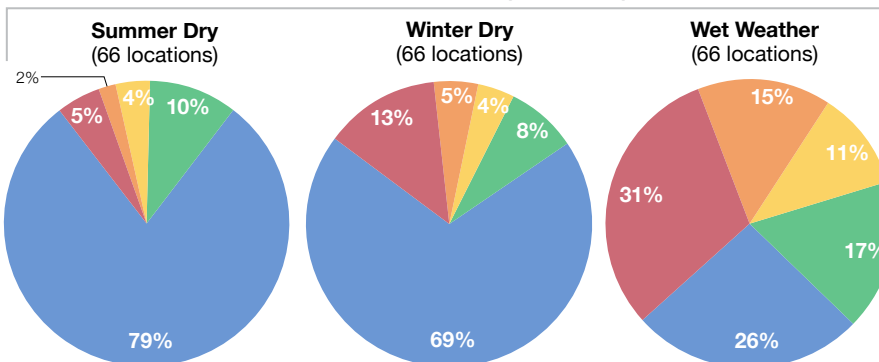
Two years ago a long overdue wastewater treatment facility and sewer system at the Paradise Cove Mobile Home Park, in conjunction with the installation of an upgraded dry weather runoff treatment facility at the bottom of the watershed, was completed. Kelp wrack and algae have been observed at the outflow of treated water discharged from the treatment facility. The point of discharge may be harboring high concentrations of bacteria, thereby introducing bacteria into newly treated waters and contributing to poor water quality grades.

FIGURE 2-6: SANTA MONICA BAY BEACHES

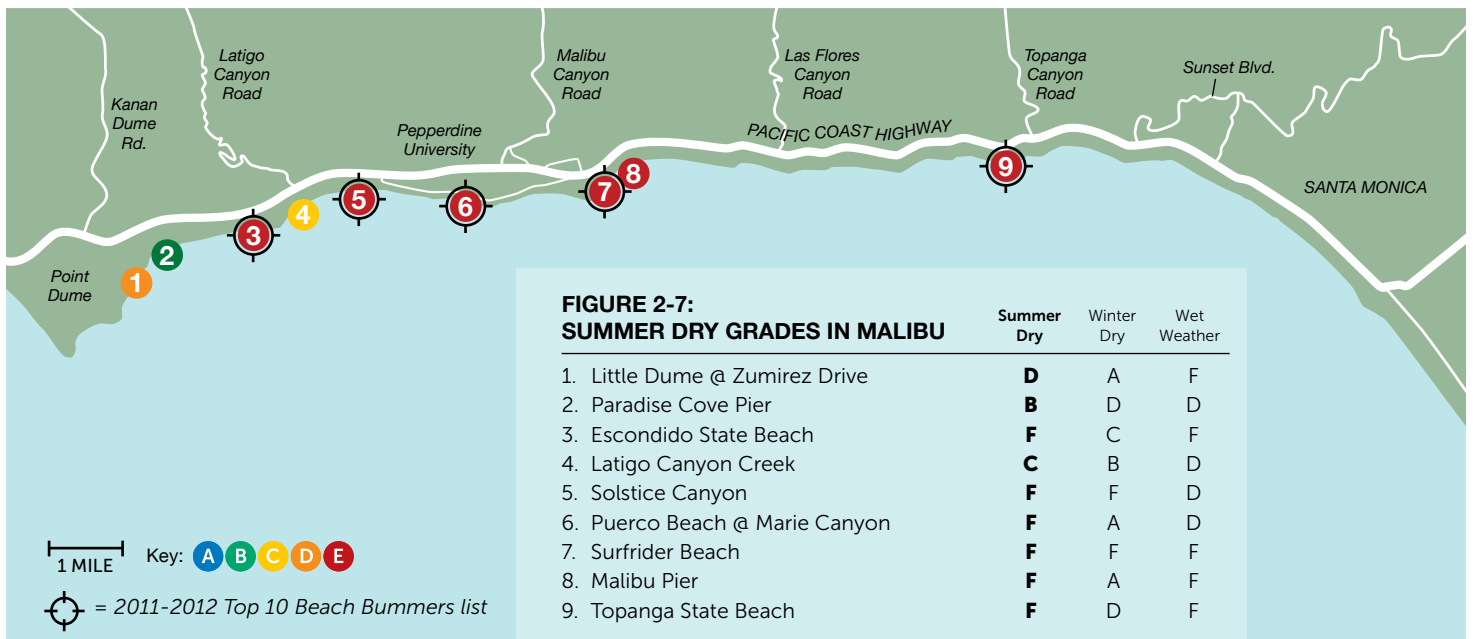
2011-2012 GRADES



FIVE YEAR AVERAGE (2007-2011)



Key: A B C D E



While we are encouraged to see the beach water improve this year at Paradise Cove during summer dry weather, Heal the Bay will continue to keep this location on the radar due to inconsistent beach water quality results.

Puerco Beach @ Marie Canyon

During summer and winter dry weather Puerco Beach @ Marie Canyon has received a D or F grade the last six of seven years. Despite the presence of a runoff treatment facility located at the base of the creek, this Malibu location consistently exceeds

beach water quality standards. Although the treatment facility continues to steadily meet all bacteria standards, the treated effluent often discharges upstream into large amounts of decomposing kelp and algae (possibly harboring bacteria) and may actually become recontaminated before the flow reaches the open ocean. If water quality exceedances continue this summer, Heal the Bay plans on launching a mini source investigation study to better understand the problems at this beach.

Surfrider Beach

Surfrider scored F grades during all three time periods this past year, placing it as the

Five of the 10 most polluted beaches in the state this year are in Malibu



fourth most polluted beach in the state. Improvement measures have been inadequate in abating bacteria sources at Surfrider Beach. This historically polluted beach was the focus of a large scale epidemiology study during the summer of 2009 led by the Southern California Coastal Water Research Project (SCCWRP), UC Berkeley, Orange County Sanitation Districts, the USEPA, and Heal the Bay. A draft of the final report is currently undergoing scientific review before publication later this year.

Solstice Canyon

Though Solstice Canyon may be new to the Beach Bummer list, poor water quality has been common at this location. Since routine monitoring began in 2006, Solstice Canyon has yet to receive an A grade (during any time period) in the Annual Beach Report Card. This year, the beach scored an F grade during summer dry and winter dry weather and a D grade during wet weather. Sources for Solstice Canyon's high bacteria levels remain unknown. On several occasions during the summer of 2011, Heal the Bay collected and analyzed beach and creek water samples at this location but results never exceeded state bacteria standards during our sampling.

Cabrillo Beach (harborside)

Heal the Bay remains concerned with the poor water quality still observed at Cabrillo Beach

harborside Beach, despite extensive water quality improvement projects including: replacement of beach sand in the intertidal zone, removal of the rock jetty, installation of water circulation pumps, and installation of bird exclusion devices. With more than \$15 million invested in improving water quality at Cabrillo's harborside, the beach is still violating TMDL limits. In a last-ditch effort towards improving beach water quality at the inner beach, the City of Los Angeles has agreed to:

- 1) expand existing bird exclusion structure into the tidal zone and across the beach face;
- 2) design and implement an improved water circulation system; and
- 3) commence an in-depth source identification study to potentially identify and mitigate sources of bacteria.

The bird exclusion structure and circulation system are scheduled to be completed by the end of 2012.

Long Beach

In 2010-2011, Long Beach's Colorado Lagoon earned a spot on the Beach Bummer list due to consistently poor water quality. On March 16, 2010 the State Board allocated \$1,799,803 towards the Colorado Lagoon Restoration Project. On April 5, 2011, due to widespread sediment contamination, the State Board approved the city's request for an additional \$3.3 million from the Cleanup and Abatement Account. The



Solstice Canyon, Malibu

Summer Dry	Winter Dry	Wet Weather
F	F	D

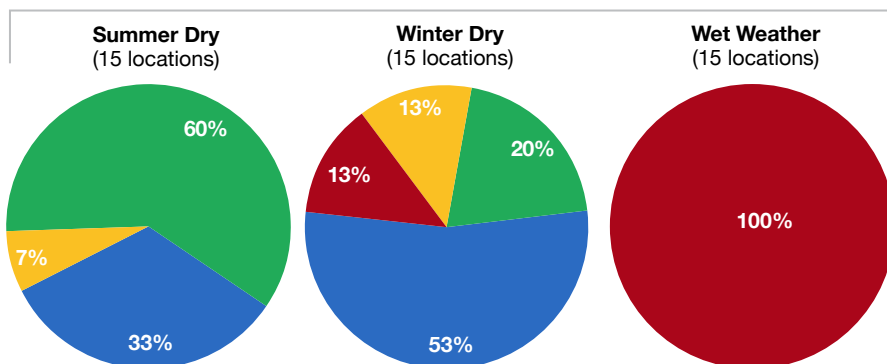


Cabrillo Beach (harborside), San Pedro

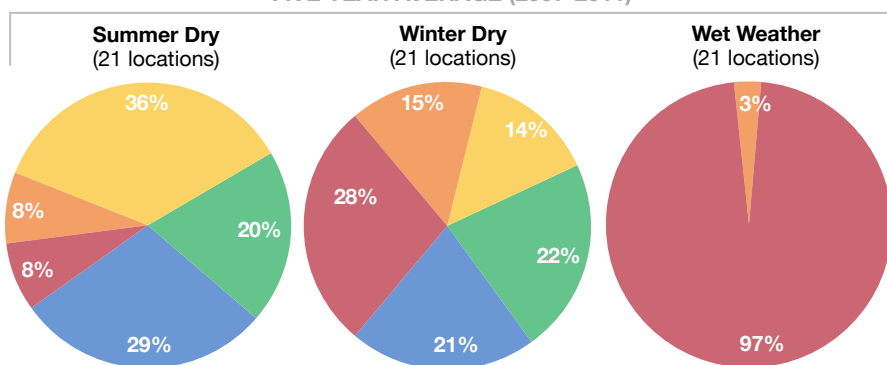
Summer Dry	Winter Dry	Wet Weather
F	F	F

FIGURE 2-8: GRADES FOR LONG BEACH

2011-2012 GRADES



FIVE YEAR AVERAGE (2007-2011)



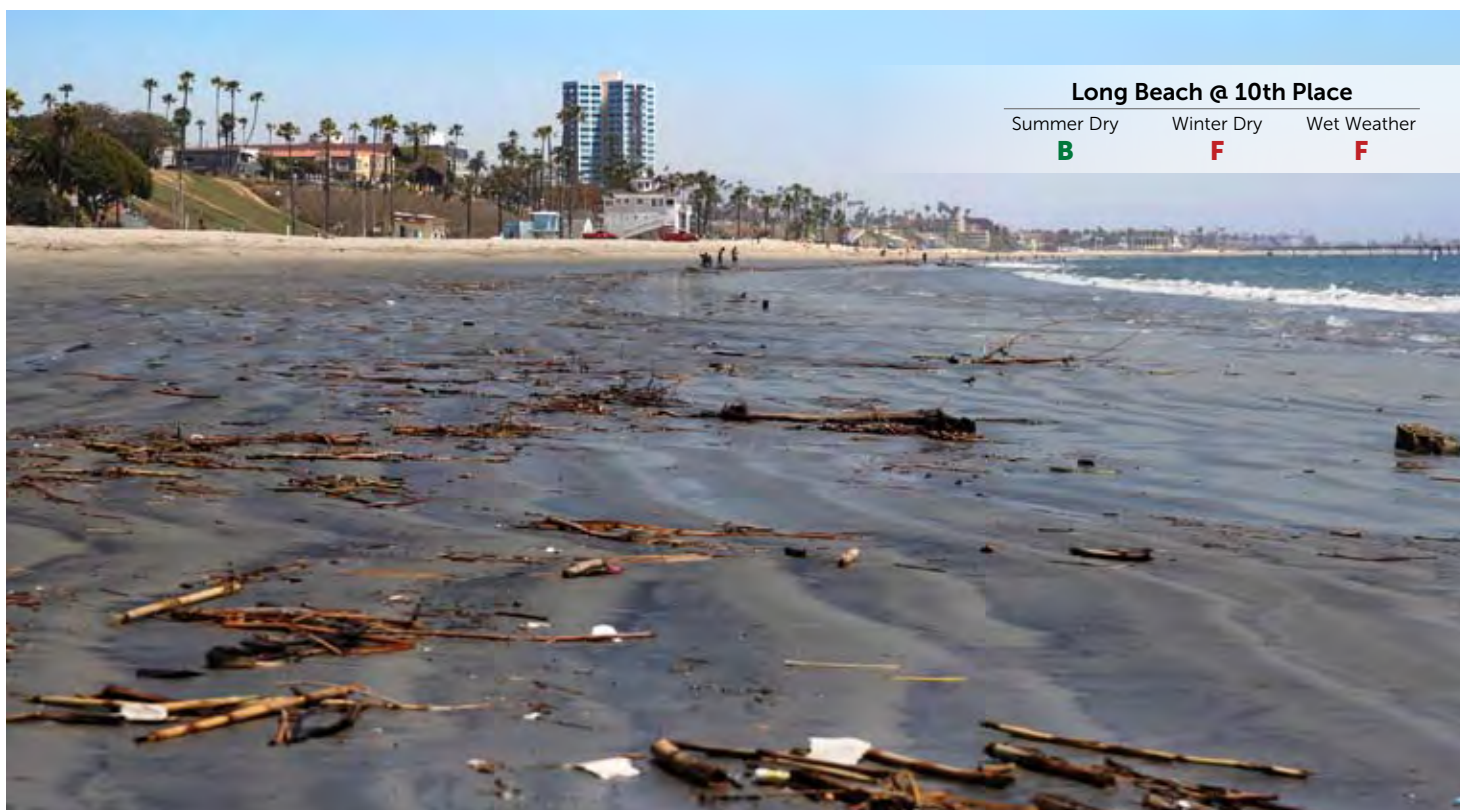
Key: A B C D E

primary goals of the project are to dredge and remove sediment and revegetate these portions of the lagoon with native plants. Dredging continues to be ongoing at this point.

As a result of the Long Beach's efforts, the Colorado Lagoon dropped off of the Beach Bummer list for 2012. In addition to improving from one of the state's most polluted beaches, Colorado Lagoon exhibited excellent water quality this year by receiving all A and B grades during summer and winter dry weather.

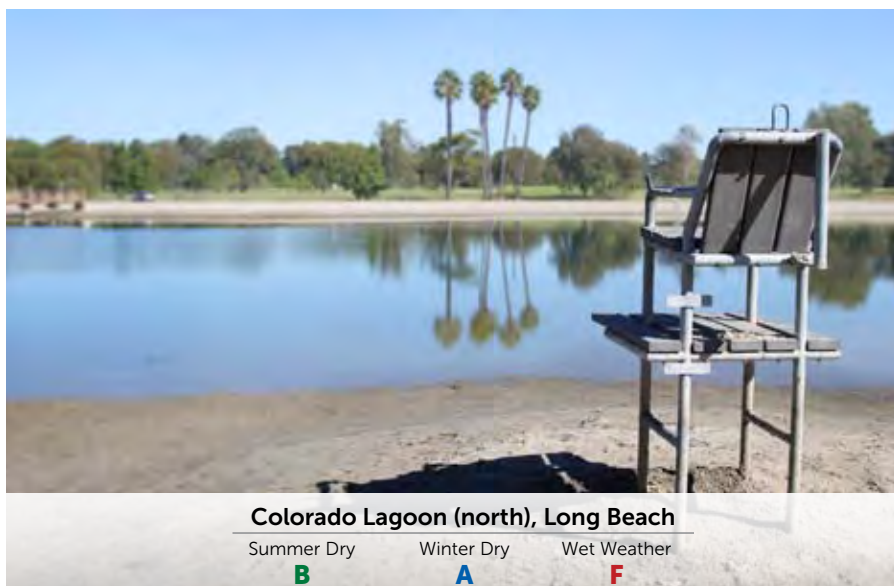
Overall, Long Beach's water quality improved drastically (93% A and B grades) during summer dry weather this past year. Last year, only 27% of beaches received an A or B grade during that monitoring period. During winter dry weather 73% of beaches received A or B grades – 30% better than the five-year average of 43%. See Figure 2-8.

Long Beach has made significant efforts to locate pollution sources and improve water quality. Extensive studies throughout the city have demonstrated that the Los Angeles River, an



Long Beach @ 10th Place

Summer Dry	Winter Dry	Wet Weather
B	F	F



Colorado Lagoon (north), Long Beach

Summer Dry	Winter Dry	Wet Weather
B	A	F



This year, as a result of the Long Beach's water quality improvement efforts, Colorado Lagoon dropped off the Beach Bummer list.

enormous pollution source because of its 100-plus square mile drainage, is the predominant source of fecal bacteria to Long Beach waters. Every monitoring loca-

tion in Long Beach scored an F grade during wet weather this year and last year. This is the third year Long Beach continued to monitor 10 fewer sites due to cost cutting measures.


While the Los Angeles River will continue to be the major source of contamination for Long Beach beaches, the city's investigations have resulted in the discovery and repair of leaking or disconnected sewage pump lines and improperly working storm drain diversions. The city has also implemented an innovative pilot technology to disinfect runoff in the storm drains.

In 2010, the Regional Board approved the Los Angeles River Bacteria TMDL, which allows 25 years to comply with water quality standards in both dry and wet weather— far too long for Long Beach residents and visitors to wait for clean water.

Sewage Spill Summary

There were four spills in Los Angeles County that resulted in beach closures this past year. The largest spill was due to a blocked sewer line in Compton that resulted in approximately 12,000 gallons of sewage released into the Los Angeles

River. Nine beaches in Long Beach were closed as a precaution for four days. On Nov. 12, 2011 approximately 9000 gallons was released to Pebbly Beach in Avalon due to a pump failure. The beach was closed for six days. Approximately 5000 gallons was released in Inglewood on Jan. 17, 2011. Three beaches near the outlet of Ballona Creek were closed as a precaution for two days. The fourth spill due to a sewer line break released 350 gallons to San Pedro Bay and resulted in a beach closure at Cabrillo Beach harborside for three days.

According to the Bureau of Sanitation's 2011 Collection System Settlement Agreement Annual Report, the city was able to reduce the total number of sanitary sewer overflows (SSOs) by 82% from the 2000 baseline year--an all-time low. In lieu of providing all fine amounts to the Regional Board, the city pursued four Supplemental Environmental Projects (SEP) in south Los Angeles, Downtown, Atwater Village and Highland Park. These SEPs will work to improve water quality by capturing and treating storm water runoff in wetlands or through implementing best management practices (BMPs). 

For additional water quality information:

County of Los Angeles Department of Public Health
Environmental Health
lapublichealth.org/eh/

City of Long Beach
www.longbeach.gov/health/eh/water/water_samples.asp



Ventura County

Ventura County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	40	100%	21	100%	14	67%
	B	0		0		5	24%
	C	0		0		1	5%
	D	0		0		1	5%
	F	0		0		0	
Total #:		40		21		21	
5 Yr. Average	A	48	98%	14	95%	5	34%
	B	<1	1%	<1	2%	5	34%
	C	<1	1%	1	4%	3	17%
	D	0		0		1	8%
	F	0		0		1	7%

= Number of Monitoring Locations

*State AB 411 monitoring April thru October

Percentages may not add up to 100 due to rounding.

For additional water quality information:

Ventura County's Environmental Health Division

[www.ventura.org/rma/envhealth/technical-services/](http://www.ventura.org/rma/envhealth/technical-services/ocean/index.html)

[ocean/index.html](http://www.ventura.org/rma/envhealth/technical-services/ocean/index.html)

The County of Ventura Environmental Health Division (EHD) monitored 40 locations weekly from April through October (21 locations were monitored year round), from Rincon (south of Rincon Creek near the Santa Barbara County line) to Staircase Beach at the north end of Leo Carrillo State Beach. Most samples were collected between 25 to 50 yards from the mouth of a storm drain or creek.


Summer dry weather water quality at Ventura County beaches was excellent in 2011 (see table). 100% of the locations received A grades during both dry weather time periods. There were no F grades in Ventura during any of the grading periods. During wet weather, only two locations received fair or poor grades, Ormond Beach - 50 yards south of J Street drain (C) and Hobie Beach at Lakeshore Drive (D). Ventura County's grades during all three time periods bested the county's previous 5-year averages.

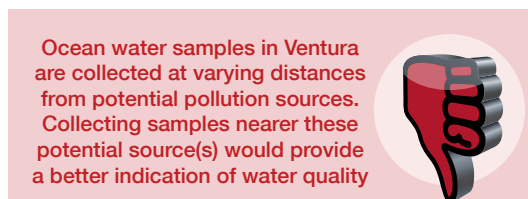
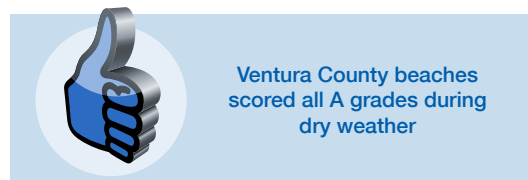
On July 8, 2010, the Regional Water Board adopted a new Ventura County Municipal Storm Water Permit. The permit was ground breaking for several reasons. It was the first time that such a permit was adopted with all applicable TMDL limits and implementation requirements. It also includes required weekly year-round monitoring of 10 Ventura County beaches near storm drains, creeks and other potential sources of fecal bacteria. This can serve as an important model for future permit development in ensuring the continuation of beach water quality monitoring regardless of the status of state and/or federal funding.

Recently, the Southern California Coastal Water Resource Project (SCCWRP) received funding from the Los Angeles Regional Board, USEPA and Ventura County Watershed Protection to do a Quantitative Microbial Risk Assessment (QMRA) case study in Ventura. QMRA involves investigating, identifying and quantifying microorganisms in order to estimate areas with potentially elevated health risks. The study will take place at Hobie Beach. Heal the Bay voiced concerns with the beach selected for the study, as it is a highly-used beach in an urban setting and is therefore not ideal for QMRA. The study team has assured that if any human marker is found, the study will not proceed. The study is estimated to last a year and a half and will begin with source tracking this summer.

As a Supplemental Environmental Project resulting from a Regional Board Administrative Civil Liability (ACL) Order against the city, Ventura will apply \$298,500 of the penalties assessed under the ACL to construct the Oak Street Urban Runoff Diversion Project. The project will capture low flow runoff from approximately 109 acres of watershed, including much of Ventura's downtown. The design phase will be completed by the end of May 2012, with construction beginning this fall. The project is projected to be on-line and functioning by the fall of 2013.

Sewage Spill Summary

There were no reported sewage spills in Ventura County that led to beach closures this past year. 





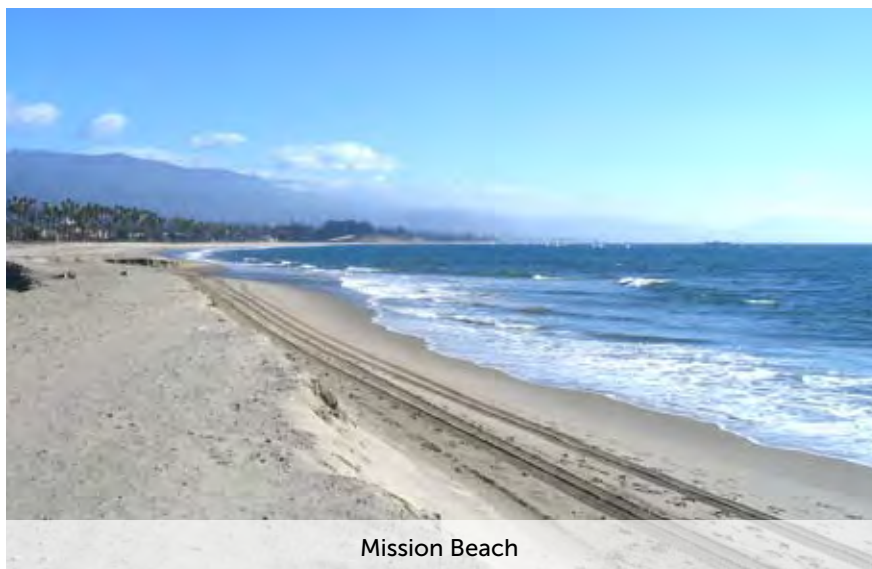
Santa Barbara County

Santa Barbara County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	9	60%	13	93%	3	20%
	B	5	33%	0		3	20%
	C	1	7%	0		5	33%
	D	0		1	7%	2	13%
	F	0		0		2	13%
Total #:		15		14		15	
5 Yr. Average	A	15	82%	14	80%	4	24%
	B	2	12%	2	10%	4	24%
	C	1	4%	1	3%	5	27%
	D	0		<1	2%	2	10%
	F	<1	2%	1	3%	3	15%

= Number of Monitoring Locations

*State AB 411 monitoring April thru October

Percentages may not add up to 100 due to rounding.



Mission Beach

For additional water quality information:
 Santa Barbara County's Environmental Health Agency
www.sbcphd.org/ehs/ocean.htm
 Santa Barbara Channelkeeper
www.sbck.org

The County of Santa Barbara Environmental Health Agency monitored 15 locations on a weekly basis from April through October 2011, from as far upcoast as Guadalupe Dunes (south of the Santa Maria River outside the City of Guadalupe) to a downcoast location at Carpinteria State Beach. Most samples were collected 25 yards north or south of the mouth of a storm drain or creek. During the winter months, Santa Barbara Channelkeeper (SBCK) continued the monitoring at 14 locations from as far upcoast as Refugio State Beach downcoast to Rincon.

Summer dry weather water quality in Santa Barbara was excellent, with 14 of 15 monitoring locations (93%) receiving A or B grades, on par with the five-year average. 13 of 14 (93%) locations received A or B grades for winter dry weather, besting the county's five-year average by two percent. Arroyo Burro Beach (C) was the only beach in Santa Barbara to receive a grade below an A or B grade during summer dry weather but was still a marked improvement from an F grade (and the No. 7 spot on the Beach Bummer list) in last year's report.

East Beach at Mission Creek continues to display very good water quality during summer dry weather. Last year was the fifth beach season following the completion of a diversion/UV disinfection system designed to treat dry weather flows from the Westside storm drain. However, that location scored the only poor grade (D) during winter dry weather and one of only two F grades in the county during wet weather.

Santa Barbara's wet weather water quality was poor overall with only six of 15 (40%) beaches receiving A or B grades. Though an improvement over last year's 20% A or B grades, it was still below the county's five-year average (48%) and the state average (64%) for A or B grades during wet weather.

Sewer System Upgrades

In March 2012, Santa Barbara Channelkeeper settled a lawsuit it filed with the City of Santa Barbara last year. Channelkeeper's lawsuit alleged that the city violated the Clean Water Act (CWA), which prohibits the discharge of anything but storm water into storm drains. Both parties entered into a legally binding agreement (Consent Decree) requiring the city to spend more than \$26 million to upgrade their sewer system, effectively doubling the number of miles of sewer pipes it will repair and replace over the next five years. The city also agreed to fund a project to raise storm water pollution awareness and install Low Impact Development (LID) throughout Santa Barbara in order to further reduce pollution to local creeks and beaches.



The City of Santa Barbara will perform major sewer upgrades and maintenance over the next five years.

Wet weather grades in Santa Barbara were below both the county's five average and the statewide average.




Mission Lagoon

The Laguna Channel Watershed Study and Water Quality Feasibility Analysis (funded by two Prop 50 CBI grants) identified signals of human fecal material discharging into Mission Lagoon. The City of Santa Barbara followed up with an aggressive DNA-based source tracking program that identified a leaking sewer line. The faulty line was immediately replaced and the discharge ceased. The City is continuing its source tracking program and has increased its effort to upgrade sewage collection infrastructure.

The city is also designing a UV disinfection facility at the outlet of Laguna Channel as part of the larger Mission Lagoon and Laguna Channel Restoration Project, which will restore habitat and improve water quality. The Source Tracking Protocol Development Project tested several methods for finding inputs of untreated sewage to the city's storm drain network. The few leaks that were found were repaired within hours of their identification. Ongoing work includes identification of target zones for sewer pipe rehabilitation, based on proximity to storm drains and an increased rate of proactive sewer line replacement.

Sewage Spill Summary

There were no reported sewage spills in Santa Barbara that led to beach closures this past year. 



Mission Lagoon



San Luis Obispo County

San Luis Obispo County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	17	89%	19	100%	14	74%
	B	2	11%	0		3	16%
	C	0		0		1	5%
	D	0		0		0	
	F	0		0		1	5%
Total #:		19		19		19	
5 Yr. Average	A	19	94%	18	91%	10	51%
	B	1	3%	1	5%	6	29%
	C	<1	1%	<1	2%	2	11%
	D	<1	1%	<1	1%	1	5%
	F	<1	1%	<1	1%	1	4%

= Number of Monitoring Locations

*State AB 411 monitoring April thru October

Percentages may not add up to 100 due to rounding.

For additional water quality information:

San Luis Obispo County Environmental Health Department

www.slocounty.ca.gov/health/publichealth/ehs/beach.htm

The County of San Luis Obispo Environmental Health Services monitored 19 locations this year from Pico Avenue in San Simeon downcoast to Pismo State Beach (at the end of Strand Way). Most samples were collected weekly 25 yards away from the mouth of a storm drain or creek.

Dry weather water quality in San Luis Obispo was excellent, with all monitoring locations receiving A or B grades during both summer and winter dry weather. Seventeen out of 19 (89%) of monitoring locations received A grades during summer dry weather, with all 19 (100%) locations receiving A grades during winter dry weather (see table).

Wet weather water quality in San Luis Obispo County improved from last year with 17 of 19 (89%) of monitoring locations receiving A or B grades. This is above the county's five-year average of 80% and well above the state average of 64%. Only two of 19 (11%) locations monitored received fair to poor grades during wet weather: Olde Port Beach (C) and Avila Beach projection of San Juan Street (F).

Pismo Beach

Pismo Beach saw improvement with all six monitoring locations received A or A+ grades (except Pismo Beach Pier) during all time periods this past year. The Pier received a B grade, a drastic improvement since it was on the Beach Bummer list in both 2008 and 2009, and just narrowly missed last year's list.

In response to historically poor water quality at the pier, a microbial source tracking study funded by the CBI was approved in April 2008. The final report was completed in August 2010. According to the "Pismo Beach Fecal Contamination Source Identification Study" final report, the main sources of fecal contamination at the pier were human, avian, and canine sources. Due to these findings, the city has implemented several water quality improvement projects, including a recently completed pier blocking project to prevent birds from nesting under the pier.

Also, a new storm water infiltration system and impervious pavers have improved water quality by eliminated a source of fresh water for the birds to congregate. Other improvements included adding signage at the beach to encourage responsible dog dropping clean up and renovating the current beach restroom facilities and increasing the number of portable units available during the summer.

Sewage Spill Summary

There were two sewage spills in San Luis Obispo County that resulted in beach closures this past year. The largest was of approximately 6000 gallons that closed portions of Shell Beach for two days in October 2011. The second spill was <1000 gallons released on April 29, 2011 that resulted in closures at Avila Beach and Olde Port Beach for one day. 



Monterey County

Monterey County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	5	63%	–		7	88%
	B	2	25%	–		0	
	C	0		–		0	
	D	1	13%	–		1	13%
	F	0		–		0	
Total #:		8				8	
5 Yr. Average	A	7	83%	–		4	79%
	B	<1	5%	–		1	11%
	C	1	10%	–		0	
	D	<1	3%	–		<1	5%
	F	0		–		<1	5%

= Number of Monitoring Locations
 *State AB 411 monitoring April thru October
 Percentages may not add up to 100 due to rounding.


For additional water quality information:
 Monterey County Environmental Health Agency
www.mtyhd.org

The County of Monterey Environmental Health Agency monitored eight locations on a weekly basis from April through October, from as far upcoast as the Monterey Beach Hotel at Roberts Lake in Seaside to a downcoast location of Carmel City Beach in Carmel by the Sea.

During the summer dry weather period, 7 of 8 (88%) of monitoring locations in Monterey County received A or B grades (see chart). Stillwater Cove scored the county's lowest grade (D) during both summer dry and wet weather. The five locations that received A grades during summer dry weather were Monterey State Beach, San Carlos Beach, Asilomar State Beach, Spanish Bay (Moss Beach) and Carmel City Beach.

Monterey beaches were not monitored often enough during the winter to earn a winter dry weather grade.

Sewage Spill Summary

There was one beach closure in Monterey County due to a sewage spill this past year. On March 8, 2011 approximately 800 gallons overflowed from a manhole in Pebble Beach and resulted in a precautionary closure at Asilomar State Beach. Water samples were taken soon after the spill and did not indicate that sewage had reached the ocean. The beach was reopened the following day. 



Santa Cruz County

Santa Cruz County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	8	62%	10	83%	5	42%
	B	2	15%	1	8%	5	42%
	C	0		1	8%	1	8%
	D	0		0		1	8%
	F	3	23%	0		0	
Total #:		13		12		12	
5 Yr. Average	A	10	78%	11	87%	3	24%
	B	1	6%	1	5%	4	29%
	C	1	6%	<1	3%	3	26%
	D	<1	1%	<1	2%	2	13%
	F	1	9%	<1	3%	1	8%

= Number of Monitoring Locations

*State AB 411 monitoring April thru October

Percentages may not add up to 100 due to rounding.

For additional water quality information:

Santa Cruz County's Department of Environmental Health Services

http://sccounty01.co.santa-cruz.ca.us/eh/environmental_water_quality/current_water_quality_data/index.htm

This past year, the County of Santa Cruz Environmental Health Services monitored 13 shoreline locations frequently enough to be included in this report. The beaches monitored weekly in Santa Cruz County range from Natural Bridges State Beach to Rio Del Mar Beach. Most samples are collected at the wave wash (where runoff meets surf), or 25 yards north or south of the mouth of a storm drain or creek. Ten of 13 (77%) beaches in Santa Cruz County received A or B grades during the summer dry weather period. Capitola Beach west of the jetty scored a poor grade (F) during the summer dry period, along with Cowell Beach at the wharf (F) and Lifeguard Tower 1 (F).


Winter dry weather water quality in Santa Cruz County was excellent overall with only one of 12 (8%) locations receiving under an A or B grade: Santa Cruz Main Beach at the San Lorenzo River (C). Santa Cruz County beaches earned 83% A or B grades during wet weather, a dramatic improvement from last year's 50%. This is also markedly better than the state average of 64% A or B grades during wet weather. Cowell Beach at the Lifeguard Tower (C) and Capitola Beach (D) were the only two locations to score below an A or B grade during wet weather.

Cowell Beach

This is Cowell Beach's third consecutive year on the Beach Bummer list, claiming the No. 2 spot in 2011-2012 and narrowly missing the title as the most polluted beach in California. The problems with Cowell Beach wharf presented itself three summers ago in 2009. A large affected area (five monitoring locations) centered on the beach from the west edge of Dream Inn all the way to Main Beach at Lifeguard Tower 2.

The exact source of beach water bacteria still has local health officials puzzled. Some speculate decomposing kelp prevalent in the water and on the beach may be harboring bacteria and contributing to water quality exceedances. In 2010, researchers from Stanford University initiated a Source Identification Protocol Project (SIPP) at Cowell Beach, in hopes of tracking sources possibly leading to poor beach water quality at this location. Samples have not yet been analyzed for human-specific bacteria. The study is scheduled to continue through the summer of 2013.

Sewage Spill Summary

A sewer line rupture released approximately 200 gallons on April 1, 2011 and resulted in a closure of Sunny Cove Beach. This was the only beach closure due to sewage in Santa Cruz County this past year. 



San Mateo County

San Mateo County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	18	82%	12	71%	8	47%
	B	0		1	6%	4	24%
	C	0		1	6%	1	6%
	D	2	9%	0		0	
	F	2	9%	3	18%	4	24%
Total #:		22		17		17	
5 Yr. Average	A	18	86%	10	71%	9	52%
	B	2	10%	2	13%	2	12%
	C	1	3%	1	4%	2	12%
	D	0		1	4%	1	7%
	F	<1	1%	1	7%	3	16%

= Number of Monitoring Locations
 *State AB 411 monitoring April thru October
 Percentages may not add up to 100 due to rounding.


For additional water quality information:
 San Mateo County website
www.co.sanmateo.ca.us

The County of San Mateo Environmental Health Department regularly monitored 22 ocean and bayside locations on a weekly basis during the summer months, from as far upcoast as Rockaway Beach at Calera Creek to a downcoast location of Gazos Creek. Seventeen of these locations were monitored frequently enough to earn grades for all time periods. Samples were collected at a distance of 25 yards north or south of the mouth of a storm drain or creek. (See Figure 2-10 on page 38 for combined grades of the Bay Area).

San Mateo beach had very good summer dry weather water quality this past year (see chart). Eighteen of 22 (82%) of beach monitoring locations received A or B grades. The county's poor grades during summer dry weather were found at Pillar Point Harbor (D), Oyster Point (D), Aquatic Park (F) and Lakeshore Park (F).

Wet weather water quality in San Mateo improved to 12 of 17 (71%) locations receiving A or B grades, 18% higher than last year and exceeding this past year's state average of 64%.

Sewage Spill Summary

Surfer's Beach was closed twice in the same week in January 2012 as a precaution after a sewage pipe breakage near Coronado Street and Highway 1. Sewer Authority Mid-Coastside notified officials of a possible new sewage leak on Jan. 25, 2012 after their previous pipe replacement work on January 21. Ocean water samples indicated that sewage had not reached the beach. 



San Francisco County

The County of San Francisco, in partnership with the San Francisco Public Utilities Commission, continued its weekly monitoring program for ocean and bay shoreline locations. The monitoring program is funded in part through the United States Environmental Protection Agency's (USEPA) BEACH grant program,

though this may change next year with EPA's newly proposed budget cuts (see page 64). The county monitored 14 locations on a weekly basis year-round, from Aquatic Park Beach (Hyde Street Pier) to Ocean Beach at Sloat Boulevard, and three sites at Candlestick Point.

San Francisco County's overall water quality grades during summer dry weather improved with all 14 (100%) monitoring locations receiving A or B grades (10 of the 14 received A grades), compared to only 79% last year. The three most polluted beaches in San Francisco last year (receiving D or F grades) improved drastically this year: Baker Beach at Lobos Creek (B), Candlestick Point at Windsurfer Circle (B) and Sunnysdale Cove (A). This is a dramatic improvement from last year when Baker Beach at Lobos Creek was on the Beach Bummer list as one of



Baker Beach, one of the most polluted beaches in San Francisco, improved dramatically this year and dropped off the Beach Bummer list.

All three monitoring locations at Candlestick Point scored "D" or "F" grades during the Winter Dry and Wet Weather grading periods.



Baker Beach, San Francisco

Baker Beach ©Depositphotos/Radoslaw Lecyk

FIGURE 2-9: GRADES FOR SAN FRANCISCO COUNTY

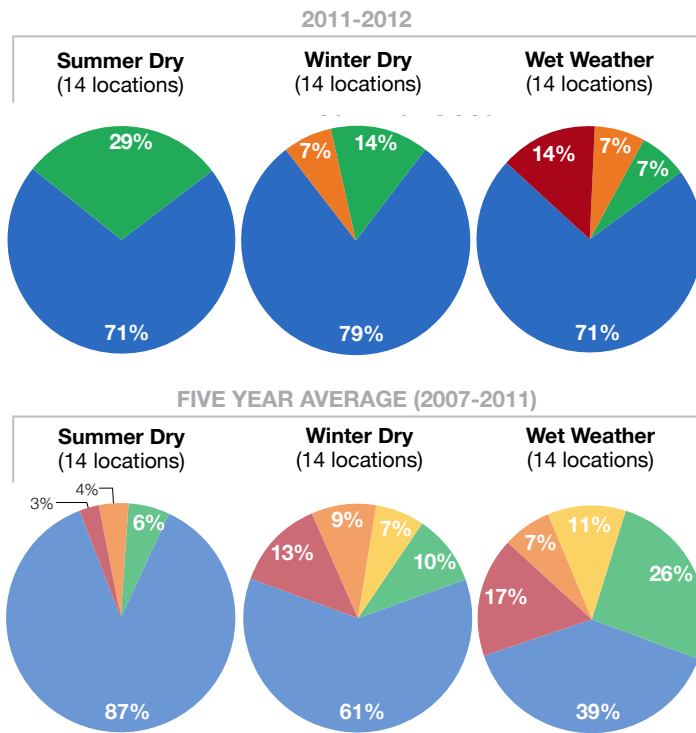
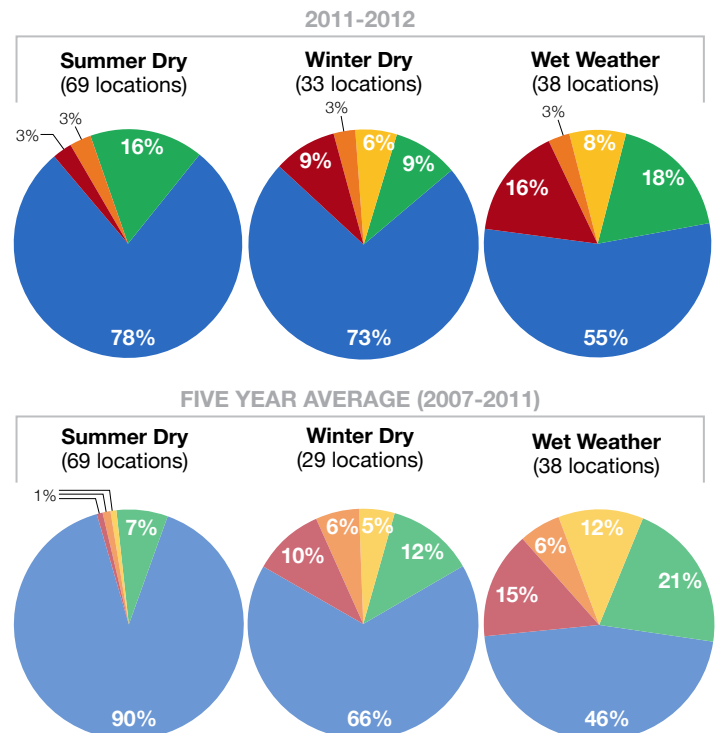


FIGURE 2-10: GRADES FOR SAN FRANCISCO BAY AREA*



Key: A B C D E

*Greater San Francisco Bay Area includes San Francisco County, Contra Costa County, Alameda County, Marin County and San Mateo County.

the 10 most polluted beaches in California.

Winter dry weather water quality at San Francisco beaches this past year was also excellent with 13 of 14 (93%) of locations receiving A or B grades (see Figure 2-9).

Wet weather water quality at San Francisco monitoring sites continues to uphold improved water quality grades for the second year in a row, with 11 of 14 (79%) locations receiving A or B grades. This exceeds both the county's five-year and statewide average of 64% A or B grades during wet weather.

Background Information from the San Francisco Public Utilities Commission

The city and county of San Francisco have a unique storm water infrastructure that occurs in no other California coastal county – a combined sewer and storm drain system (CSS). This system provides treatment to most of San Francisco's storm water flows. All street runoff during

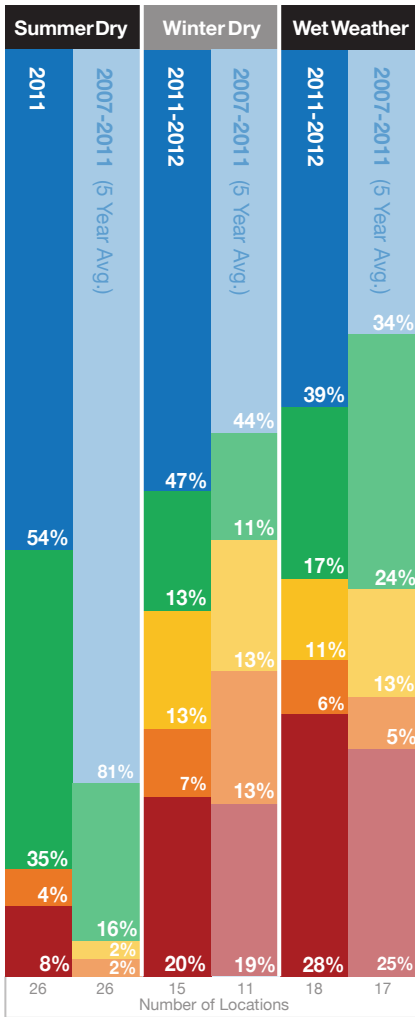
dry weather receives full secondary treatment. All storm flow receives at least the wet weather equivalent of primary treatment and most receive full secondary treatment before being discharged through a designated outfall.

During heavy rain events, the CSS can discharge combined treated urban runoff and sewage wastewater, typically comprised of 94% treated storm water and 6% primary treated sanitary flow. In an effort to reduce the number of combined sewer discharges (CSDs), San Francisco has built a system of underground storage, transport and treatment boxes to handle major rain events. CSDs are legally, quantitatively and qualitatively distinct from raw sewage spills that occur in communities with separate sewers.

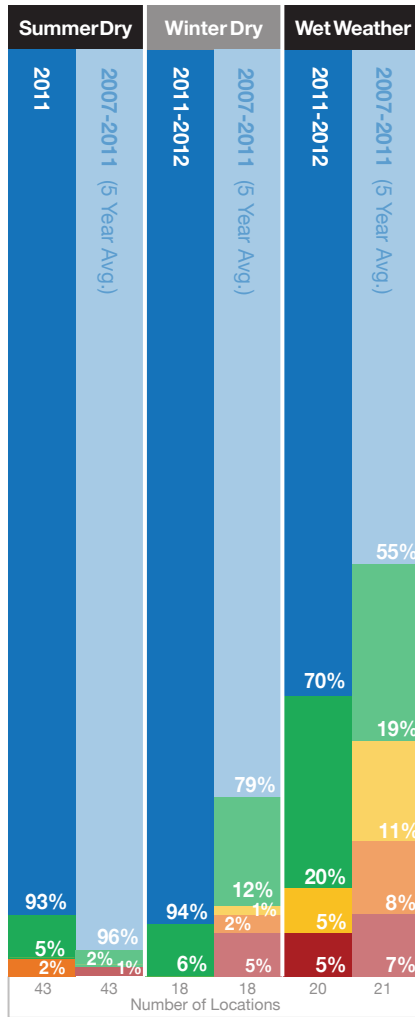
In addition to most CSS storm water discharges being treated, they are also of much shorter duration and lower volume than discharges in communities with separate storm drain systems. Because of the CSS, San Francisco's ocean

FIGURE 2-11: COMPARISON OF OCEAN AND BAY SIDE WATER QUALITY

SAN FRANCISCO - BAY SIDE



SAN FRANCISCO - OCEAN SIDE



Key: A B C D E

shoreline has no flowing storm drains in dry weather throughout the year, and therefore is not subject to AB 411 monitoring requirements.

However, the city does have a year-round program that monitors beaches each week. Although most of San Francisco is served by the CSS, there are some areas of federally owned land and areas operated by the Port of San Francisco that have separate storm drains.

Sewage Spill Summary

This past year a total of 11 CSDs occurred in San Francisco County during heavy rainfall on five separate dates. San Francisco received about half the amount of rain this past year (2011-2012) than in the previous year (2010-2011). This decrease in rainfall resulted in 30% fewer CSO dates at nearly 60% fewer locations than the previous year.

For additional water quality information:
San Francisco Public Utilities Commission
<http://beaches.sfwater.org>



Contra Costa and Alameda Counties

East Bay: Alameda and CC Counties							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	6	60%	5	83%	3	43%
	B	4	40%	0		2	29%
	C	0		1	17%	2	29%
	D	0		0		0	
	F	0		0		0	
Total #:		10		6		7	
5 Yr. Average	A	8	83%	2	67%	4	45%
	B	2	17%	1	17%	3	32%
	C	0		0		1	13%
	D	0		0		<1	3%
	F	0		1	17%	1	8%

= Number of Monitoring Locations
 *State AB 411 monitoring April thru October
 Percentages may not add up to 100 due to rounding.

For additional information on the East Bay Regional Park District and its numerous activities, please visit:
www.ebparks.org


The East Bay Regional Park District consistently monitored 10 shoreline locations again this year, including three in Contra Costa County and seven in Alameda County. Samples were collected weekly during the summer dry weather and about twice a month throughout the winter.

All monitoring locations in the East Bay received excellent water quality grades this year with all 10 (100%) locations receiving A or B grades during summer dry weather. Only one of six beaches scoring below an A or B grade during winter dry weather: Crown Beach Bird Sanctuary (C). (See Figure 2-10 on page 38 for combined grades of the Bay Area).

All seven monitoring locations in Alameda County scored excellent (A or B) water quality grades during summer dry weather. Only four monitoring locations earn grades during winter dry weather: Crown Beach Bath House (A+), Crown Beach Sunset Road (A), Crown Beach Shoreline Drive (A) and Crown Beach Bird Sanctuary (C). Five out of seven monitoring locations in Alameda County earned wet weather grades this past year with only one location earning a grade lower than an A or B grade: Crown Bird Sanctuary (C).

All three locations at Keller Beach in Contra Costa showed very good water quality this year, scoring A or B grades during summer dry and winter dry weather. Only two of the locations were sampled frequently enough to receive wet weather grades: Keller Beach North Beach (C) and Keller Beach South Beach (B).

Sewage Spill Summary

The East Bay Regional Park District closed beaches twice due to sanitary sewer overflows (SSO) this past year. Keller Beach was closed on August 19 2011 for two days as a precaution after a nearby SSO. Water samples indicated that sewage did not appear to reach the beach. On March 14, 2012, a large SSO into Richmond Harbor resulted in another closure at Keller Beach for a week until water samples indicated the bacteria levels at safe levels. 



Marin County

Marin County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	20	87%	–		–	
	B	3	13%	–		–	
	C	0		–		–	
	D	0		–		–	
	F	0		–		–	
Total #:		23					
5 Yr. Average	A	25	98%	–		–	
	B	1	2%	–		–	
	C	0		–		–	
	D	0		–		–	
	F	0		–		–	

= Number of Monitoring Locations

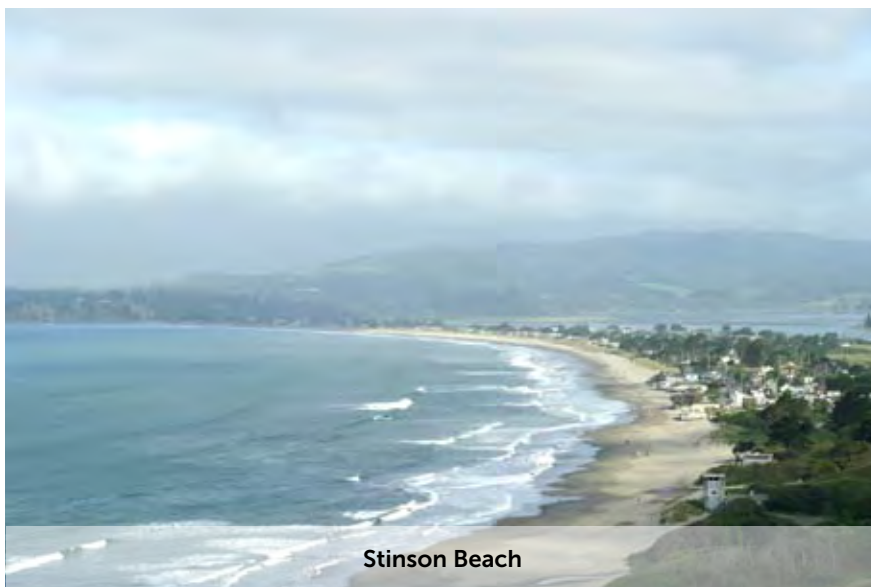
*State AB 411 monitoring April thru October

Percentages may not add up to 100 due to rounding.

For additional water quality information:

Marin County's Department of Environmental Health

www.marincounty.org/ehs




Stinson Beach

Marin County's water quality monitoring program gathered data from 23 bayside and oceanside monitoring locations. Ocean locations included Dillon Beach, Bolinas Beach (Wharf Road), Stinson Beach, Muir Beach, Rodeo Beach and Baker Beach. These locations were monitored on a weekly basis from April through October. There was little or no monitoring during the winter months. Water quality was excellent at all beach monitoring locations in Marin County (see chart). All locations in Marin County received A or B grades during the summer dry weather, with 20 of 23 (87%) of locations receiving an A grade. (See Figure 2-10 on page 38 for combined grades of the Bay Area).

There was an insufficient amount winter dry and wet weather data for locations to receive grades during these periods.

Sewage Spill Summary

There was one sewage spill in Marin County that led to a beach closure this past year. Approximately 2,775 gallons of sewage was released on Feb. 7, 2012 near Schoonmaker Beach and resulted in the beach being closed for three days. 



Sonoma County

Sonoma County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	7	100%	–		2	100%
	B	0		–		0	
	C	0		–		0	
	D	0		–		0	
	F	0		–		0	
	Total #:	7				2	
5 Yr. Average	A	5	90%	6	92%	5	71%
	B	0		0		2	21%
	C	<1	3%	0		0	
	D	0		0		0	
	F	<1	7%	1	8%	1	7%
	Total #:						

= Number of Monitoring Locations
 *State AB 411 monitoring April thru October
 Percentages may not add up to 100 due to rounding.

For additional water quality information:
 Sonoma County's Department of Environmental Health
www.sonoma-county.org/health/services/ocean.asp

This year, the County of Sonoma Environmental Health Division resumed consistent sampling at seven monitoring locations (weekly). No locations were monitored year-round due to budget-cuts and the uncertainty of sustainable funding for the program. All monitoring locations received A grades during summer dry weather and wet weather. This beats the county's five-year water quality average during summer dry of 90% A or B grades and 93% A or B grades during wet weather.

Sewage Spill Summary

There were no reported sewage spills in Sonoma County that led to beach closures this past year. 



Mendocino County


Mendocino County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	4	100%	–		–	
	B	0		–		–	
	C	0		–		–	
	D	0		–		–	
	F	0		–		–	
	Total #:	4					
5 Yr. Average	A	4	100%	–		–	
	B	0		–		–	
	C	0		–		–	
	D	0		–		–	
	F	0		–		–	
	Total #:						

= Number of Monitoring Locations
 *State AB 411 monitoring April thru October
 Percentages may not add up to 100 due to rounding.

This past year, Mendocino County consistently monitored four locations during summer dry weather: MacKerricher Beach State Park at Virgin Creek, Pudding Creek ocean outlet, Big River near Pacific Coast Highway and Van Damme State Park at the Little River. All four beaches received an A or A+ grade during the summer dry weather period.

Mendocino County locations were not monitored during the winter period. Insufficient monitoring data was collected during wet weather to produce additional grades for this report.

Sewage Spill Summary

There were no reported sewage spills in Mendocino County that led to beach closures this past year. 



Humboldt County

Humboldt County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	2	40%	–		–	
	B	2	40%	–		–	
	C	1	20%	–		–	
	D	0		–		–	
	F	0		–		–	
Total #:		5					
5 Yr. Average	A	5	92%	–		2	40%
	B	<1	4%	–		2	40%
	C	0		–		1	15%
	D	0		–		<1	5%
	F	<1	4%	–		0	

= Number of Monitoring Locations

*State AB 411 monitoring April thru October

Percentages may not add up to 100 due to rounding.

For additional water quality information:


Humboldt County's Department of Health & Human Services

www.co.humboldt.ca.us/health/envhealth/beachinfo

In an effort to proactively protect public health, the Humboldt County Division of Environmental Health (DEH) moved their monitoring locations to 'point zero' in 2006. Five locations were sampled in the mixing zone during the summer dry weather period. The monitoring program is funded by the Environmental Protection Agency's National BEACH Program. This was the second year since its inclusion in our annual report that Humboldt County did not monitor beaches year-round. Summer dry weather water quality in Humboldt was excellent again this year, with only one beach scoring lower than an A or B grade: Luffenholtz Beach near Luffenholtz Creek (C).

There was an insufficient amount of winter dry and wet weather data to produce additional grades for this report.

Sewage Spill Summary

There were no reported sewage spills in Humboldt County that led to beach closures this past year. 



Del Norte County

Del Norte County							
		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2011-2012	A	–		–		–	
	B	–		–		–	
	C	–		–		–	
	D	–		–		–	
	F	–		–		–	
Total #:							
5 Yr. Average	A	–		–		–	
	B	–		–		–	
	C	–		–		–	
	D	–		–		–	
	F	–		–		–	

= Number of Monitoring Locations

*April thru October represents mandated state monitoring (AB 411)

Percentages may not add up to 100 due to rounding.

Only a single monitoring location (Battery Point Lighthouse) in Del Norte County is sampled once a month, which is not frequently enough to earn a grade in this report.

Sewage Spill Summary

There were no reported sewage spills in Del Norte County that led to beach closures this past year.



Beach Report Card for 2011-2012: Oregon

OREGON OVERALL

Summer Dry		Winter Dry		Wet Weather	
#	%	#	%	#	%

3 COUNTIES							
2011-2012	A	27	100%	–		24	89%
	B	0		–		2	7%
	C	0		–		1	4%
	D	0		–		0	
	F	0		–		0	
	Total #:	27				27	

For additional water quality information:

Oregon Health Authority

<http://public.health.oregon.gov/HealthyEnvironments/Recreation/BeachWaterQuality/Pages/index.aspx>

OREGON COUNTIES

Summer Dry		Winter Dry		Wet Weather	
#	%	#	%	#	%

Clatsop County						
2011-2012	A	12	100%	–	10	83%
	B	0		–	1	8%
	C	0		–	1	8%
	D	0		–	0	
	F	0		–	0	
	Total #:	12			12	

Tillamook County						
2011-2012	A	6	100%	—	6	100%
	B	0		—	0	
	C	0		—	0	
	D	0		—	0	
	F	0		—	0	
	Total #:	6			6	

Lincoln County						
2011-2012	A	9	100%	—	8	89%
	B	0		—	1	11%
	C	0		—	0	
	D	0		—	0	
	F	0		—	0	
	Total #:	9			9	

= Number of Monitoring Locations
Percentages may not add up to 100 due to rounding.



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Last summer, the State of Oregon exhibited excellent water quality during summer dry weather, earning all A grades. Oregon agencies monitored 27 beach locations throughout the state this summer. Wet weather water quality grades were also excellent with 26 of 27 beaches receiving A or B grades, and only one location (Cannon Beach at Ecola creek mouth) earning a C grade. However, only three out of seven coastal counties in Oregon were monitored at least on a weekly basis. Heal the Bay looks forward to working with Oregon agencies to increase beach monitoring frequency, as well as the number of sampling locations covered by the Beach Report Card.



Beach Report Card for 2011-2012: Washington

WASHINGTON STATE OVERALL

		Summer Dry		Winter Dry		Wet Weather	
		#	%	#	%	#	%
12 COUNTIES							
2011-2012	A	190	84%	12	100%	131	90%
	B	15	7%	–		3	2%
	C	7	3%	–		3	2%
	D	6	3%	–		4	3%
	E	–		–		–	
	F	8	4%	–		5	3%
Total #:		226		12		146	

For additional water quality information:
 State of Washington's Department of Ecology
www.ecy.wa.gov/programs/eap/beach/index.html



Washington now has one of the most robust beach monitoring programs in the country based on the number of sample sites per mile of beach.

Washington's BEACH program is a state-administered and locally implemented program. Approximately 80% of the program is funded under the federal BEACH Act with the remaining 20% funded by EPA's National Estuary Program's Pathogen Prevention, Reduction and Control Grant. The program is designed to monitor Washington's popular marine swimming locations for fecal contamination, as well as inform the public when an increased risk of illness is identified. Washington monitors water quality using *Enterococcus* bacteria, which differs from California's three indicator bacteria monitoring protocol. Washington's simpler methodology can be found in Appendix A2.

The State of Washington exhibited very good water quality during summer dry weather with 91% A or B grades. Last summer Washington added 31 beaches to their water quality monitoring program, for a total of 81 beaches with 226 monitoring locations (typically each beach contains three monitoring locations). The Makah Tribe also contributes beach monitoring to the state program through separate BEACH Program Tribal funding. The tribe is credited with monitoring the state's only year-round monitored locations (12 locations) and a total of six of the 81 beaches for Washington State. Washington now has one of the most robust beach monitoring programs in the country based on the number of sample sites per mile of beach. Twenty-one out of the 226 monitoring locations (9%) received



Picnic Point County Park

WASHINGTON COUNTIES

		Summer Dry		Winter Dry		Wet Weather	
		#	%	#	%	#	%
Whatcom County							
2011-2012	A	10	67%	–		5	56%
	B	3	20%	–		2	22%
	C	0		–		0	
	D	1	7%	–		0	
	F	1	7%	–		2	22%
Total #:		15				9	

Thurston County							
2011-2012	A	6	100%	–		3	100%
	B	0		–		0	
	C	0		–		0	
	D	0		–		0	
	F	0		–		0	
Total #:		6				3	

Snohomish County							
2011-2012	A	16	89%	–		6	100%
	B	1	6%	–		0	
	C	0		–		0	
	D	0		–		0	
	F	1	6%	–		0	
Total #:		18				6	

Skagit County							
2011-2012	A	0		–		1	50%
	B	2	100%	–		0	
	C	0		–		0	
	D	0		–		0	
	F	0		–		1	50%
Total #:		2				2	

Pierce County							
2011-2012	A	32	97%	–		28	93%
	B	1	3%	–		0	
	C	0		–		0	
	D	0		–		1	3%
	F	0		–		1	3%
Total #:		33				30	

Mason County							
2011-2012	A	11	79%	–		8	89%
	B	0		–		0	
	C	2	14%	–		0	
	D	0		–		0	
	F	1	7%	–		1	11%
Total #:		14				9	

= Number of Monitoring Locations
Percentages may not add up to 100 due to rounding.

fair to poor water quality grades throughout the state (7 Cs, 6 Ds and 8 Fs).

Although Washington only monitors 12 locations during the winter months, all locations received A grades. Wet weather water quality was also very good with 134 of 146 (92%) locations receiving A or B grades.

The following monitoring locations received poor water quality grades (Fs) during summer dry weather the last two summers: Oak Harbor City Beach Park (west), Freeland County Park Holmes Harbor (east), and Pomeroy Park's Manchester Beach (north). According to Washington's Department of Ecology, Oak Harbor City Beach is located in a highly developed area where urban runoff may be contributing to elevated bacteria levels. Possible sources contributing to poor water quality grades at Pomeroy Park's Manchester Beach may be associated with fecal contamination from boats, and/or wet weather runoff from a large suburban area which drains to the beach. Kitsap County continues to investigate and abate possible pollution sources at Pomeroy Park's Manchester Beach.

Wildcat Cove

Since 2007, monitoring results from Larrabee State Park's Wildcat Cove have exceeded bacteria standards. As a result, two additional monitoring stations, located near freshwater discharges, were added for the 2011 summer beach season. The freshwater drainage locations had consistently high levels of bacteria. Further investigation was performed by Washington's BEACH program, Whatcom County Health District, Washington State Park, and local Surfrider volunteers to identify possible bacteria sources. Results showed high bacteria counts were originating near a wetland area, commonly used by raccoons and other wildlife. The results were negative for septic system intrusion.

Source reduction activities include a social marketing and public education campaign geared towards teaching campers and beach users to secure their food, which may be augmenting the already overwhelming number of raccoons in the park. This collaborative education project is being developed by the Whatcom County Marine Resources Council, Whatcom County Health Department, Washington State Parks, Washington BEACH program and Surfrider.

Also, starting this summer, interns will be collecting camper survey information and educating the public on the need to secure food as well as raccoon behavior. As source actions are implemented, follow-up monitoring will be conducted to indicate effectiveness and decrease bacteria loading to Wildcat Cove. Heal the Bay looks forward to working with Washington in order to highlight and address those monitoring locations that demonstrate poor water quality.

Sewage Spill Summary

In 2011 Washington experienced six sewage spills that resulted in beach closures. A known volume totaling more than 121,702 gallons was spilled. Those spills were responsible for closures at four beaches typically lasting one week. The worst events included sewage spills at Seahurst Park in King County that occurred on two different days by the same contractor working on a sewer line. As a result, approximately 11,500 gallons of raw sewage was spilled on the beach. Another notable incident

WASHINGTON COUNTIES

Summer Dry		Winter Dry		Wet Weather	
#	%	#	%	#	%

Kitsap County

2011-2012	A	28	67%	–		26	100%
	B	4	10%	–		0	
	C	4	10%	–		3	10%
	D	3	7%	–		1	3%
	F	3	7%	–		0	
Total #:		42				30	

King County

2011-2012	A	32	97%	–		31	94%
	B	1	3%	–		0	
	C	0		–		0	
	D	0		–		2	6%
	F	0		–		0	
Total #:		33				33	

Jefferson County

2011-2012	A	18	100%	–		–	
	B	0		–		–	
	C	0		–		–	
	D	0		–		–	
	F	0		–		–	
Total #:		18					

Island County

2011-2012	A	3	33%	–		–	
	B	1	11%	–		–	
	C	1	11%	–		–	
	D	2	22%	–		–	
	F	2	22%	–		–	
Total #:		9					

Grays Harbor County

2011-2012	A	9	100%	–		9	100%
	B	0		–		0	
	C	0		–		0	
	D	0		–		0	
	F	0		–		0	
Total #:		9				9	

Clallam County

2011-2012	A	25	93%	12	100%	14	93%
	B	2	7%	0		1	7%
	C	0		0		0	
	D	0		0		0	
	F	0		0		0	
Total #:		27		12		15	

= Number of Monitoring Locations
Percentages may not add up to 100 due to rounding.




Purdy Sandspit County Park

was at Olympia's LOTT West Bay Pump Station that had an overflow of 32,930 gallons of raw sewage into Budd Inlet causing a swimming advisory posting.

Since 2004, Washington BEACH Program has posted fifty beaches with 113 advisories or closures due to sewage and combined sewer overflows. Most of the spills occur during the winter months.

Combined Sewer Overflows

Combined Sewer Overflows (CSOs) occur in older communities throughout the Puget Sound. CSOs carry both wastewater and storm water to a treatment plant and when heavy rains fill the pipes, excess storm water and sewage flow directly into local waterbodies. CSOs are a concern to the BEACH Program because untreated wastewater and storm water may discharge near swimming beaches and pose risks to public health. In particular, CSO discharges in King County and in Clallam County discharge near BEACH Program monitored swimming beaches. King County provides this real-time map notifying the public about CSO discharges at www.kingcounty.gov/environment/wastewater/CSOstatus/Overview.aspx.

In Clallam County, Port Angeles Harbor is lined with CSOs managed by the city. Two popular swimming beaches: Sail and Paddle Park, and Hollywood Beach are located in Port Angeles Harbor. CSO events are monitored by the city and regulated by the Department of Ecology. Over the past few years, steps have been taken to reduce the amount of CSOs discharged to the Harbor. One large storm event in December 2011, caused CSO discharges and a bypass discharge at the nearby treatment plant resulting in a swimming advisory at Hollywood Beach. 

Information and photos generously provided by the Washington Department of Health and Department of Ecology.

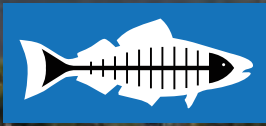


Will Rogers State Beach @ Pulga Canyon

Summer Dry	Winter Dry	Wet Weather
A	A	B



BEACH REPORT CARD



2011-2012 IMPACTS & NEWS

Heal the Bay's first Beach Report Card was published in 1990 and covered about 60 monitoring locations in Los Angeles County. At that time, beachgoers knew little about the health risks of swimming in polluted waters or the water quality at any of their favorite beaches

Since then, a great deal of work has been completed to reduce urban runoff pollution and sewage spills at our local beaches. Beachgoers throughout California have come to rely on the annual grades and weekly grades as a vital public health protection tool.



Avalon Bay, Catalina Island

Summer Dry

F

Winter Dry

n/a

Wet Weather

n/a



The Clean Beach Initiative

In 2000, then Governor Gray Davis and Assemblywoman Fran Pavley proposed allocating \$34 million from the state budget towards protecting and restoring the health of California's beaches. This funding became known as the Clean Beach Initiative (CBI). To date, more than \$100 million has been allocated to projects to clean up California's most polluted beaches and to fund research on rapid pathogen indicators and pathogen source identification efforts.

Since the implementation of this funding, dozens of projects have been completed or are nearing completion. However, the December 2008 statewide freeze on bond funds meant all projects that were underway were put on hold. Funding for those projects already underway has been recently restored. Completed CBI projects have already made a big difference towards improving water quality at chronically polluted beaches. One example is Baby Beach in Orange County, which had a long history of chronically polluted beach water. CBI funds allowed the City of Dana Point to install a storm drain diversion and filtration system, which diverts approximately 3,000 gallons of dry weather runoff to the sewer each day. Since the diversion became operational in May 2007, Baby Beach has earned excellent water quality grades during summer dry weather. Additionally, all eight Low Flow Diversion (LFD) beaches (funded by CBI, Prop O and ARRA funds) in Los Angeles received A or B grades this year during both summer and winter dry weather. This is a great achievement, which we hope sets precedence for projects to improve water quality at other beaches that are highly impacted by urban runoff.

Source Identification Protocol Project (SIPP)

A \$4 million, three-year Source Identification Protocol Project (SIPP) is currently underway with researchers from Stanford University, UCSB, UCLA, USEPA Office of Research and Development and the Southern California Coastal Water Resource Project (SCCWRP). They are developing and implementing sanitary survey/source tracking protocols at 12 to 16 of California's most polluted beaches, including Cowell Beach in Santa Cruz County, Topanga Beach in Los Angeles County, Arroyo Burro Beach in Santa Barbara County, and Doheny State Beach in Orange County. The goals of the study are to:

- Develop a suite of the best available methods for identifying the sources of fecal contamination in environmental samples
- Conduct a reconnaissance of fecal pollution along the coast of California
- Develop methods to conduct upstream source identification in problem watersheds
- Transfer technology to other laboratories across California

Researchers will test methods to identify human and a variety of different animal sources. The study will also compare results among the different laboratories in order to ensure that methods are comparable. Ideally, one of the final products will be a source tracking protocol that can be used to find microbial pollution sources at beaches chronically polluted by fecal indicator bacteria. The tool has been sorely needed since the passage of AB 538 in 1999, which requires source identification and

abatement efforts to proceed at chronically polluted beaches. To date, AB 538 requirements have been largely ignored by state and local health and water quality agencies.

CBI UPDATE: Avalon Beach

The identification of Avalon's chronically polluted beach water problems can be traced back to when water quality monitoring first became mandated by the state in 1999 under Assembly Bill 411 (AB 411). In 2000, Avalon Beach made its first appearance on the Beach Bummer list, taking the No. 4 spot. Since then, Avalon Beach has been on the list 11 out of the last 12 years, including taking the No. 1 spot this year. Avalon Beach's chronic pollution problems have led to numerous studies including a Stanford University study that performed source tracking, fate and transport and beach modeling. Study results identified human-specific bacteria in Avalon's beach water and attributed sewage contaminated groundwater as the major source of beach pollution. In 2007, a \$4.5 million swimmer health effects (epidemiology) study included Avalon Beach as a research location due to its perpetually poor water quality. During the study, researchers attempted to correlate levels of beach water pollution to an array of negative health risks including diarrhea, nausea and skin rash. The study was completed in 2010, and the results should be published before the end of 2012.

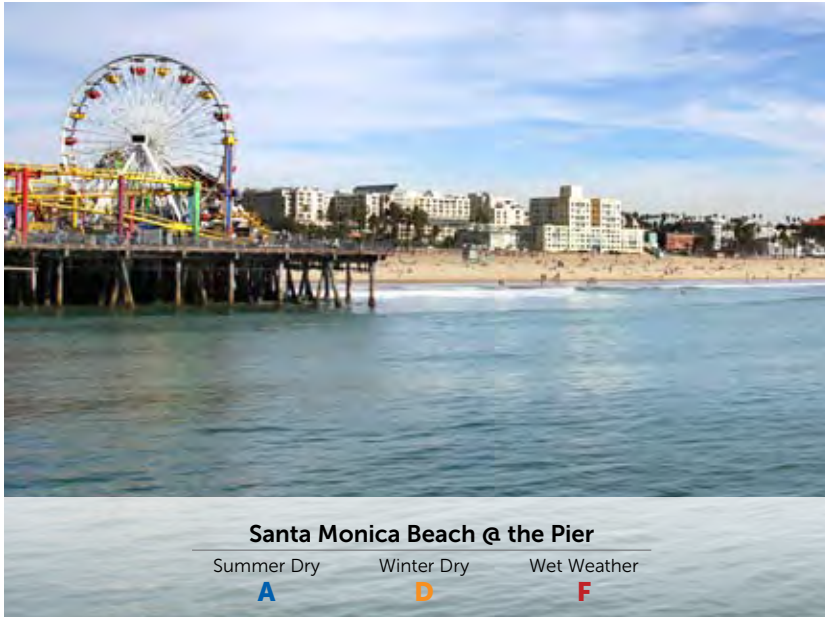
In early 2011, the Regional Board issued the City of Avalon a Notice of Violation (NOV) for numerous Sanitary Sewer Overflows (SSO) and consistent water quality violations. The NOV was primarily based on an inspection visit in October 2010. That same year, the city hired RBF Consulting to perform a sewer and manhole condition assessment. RBF estimated that \$4.6 million were needed for repairs. An additional \$250,000 in repairs was also recommended to restore the Avalon's Waste Water Treatment Plant (WWTP). The city also contracted Environ Strategy to take operation of the WWTP and ended their 20-year partnership with United Water Services. These actions are very positive steps towards improving water quality at Avalon, if long overdue. Although Avalon has made numerous improvements this year towards improving beach water quality and raising public health awareness, in February 2012, the Regional Board issued a Draft Cease and Desist Order (CDO) to the city for illegally discharging polluted water. Concurrently, the Board adopted a bacteria TMDL for Avalon Harbor. These regulatory actions will now put the City of Avalon on the hook for meeting and maintaining all state water quality monitoring standards or they will face hefty fines and penalties.

In mid-April, Heal the Bay toured Avalon's WWTF and infrastructure system to observe the most recent changes, which include major wastewater treatment plant improvements (upgrades, repairs and new routine maintenance plan) and the replacement of numerous sewer laterals and mains (estimated to be finished June 30, 2012). Though it may take time and extensive work before Avalon's beach water quality improves, we are encouraged with the city's progress and at the same time relieved that they will finally be held accountable for decades of poor water quality. Heal the Bay looks forward to seeing much improved beach water quality at Avalon Beach in the near future.

CBI UPDATE: Santa Monica Pier Success

The City of Santa Monica has completed the Pier Storm Drain Improvement project, funded under Measure V, approved by voters in 2006. Measure V projects are intended to reduce storm water pollution and runoff from entering Santa Monica Bay. The project began in February 2009 and involved replacing the severely degraded storm drain underneath the Santa Monica Pier.

The new storm drain was designed and constructed in a manner to reduce or eliminate ponding of runoff under the pier. Using CBI funds, Santa Monica also put in a new dry weather runoff diversion to replace the previous faulty system. The city installed netting under the pier to prevent pigeons



and other birds from nesting underneath the pier and adding their fecal bacteria to the already problematic water quality. This netting was completed in February 2010.

Santa Monica also hired researchers from UCLA to complete a thorough source tracking study to identify any remaining sources of fecal bacteria at the beach. Results from this study have not identified any sources of human specific bacteria under or around the pier. Since the spring of 2010, water quality at the beach south of the pier has improved dramatically. This past year, the Santa Monica Pier received an A grade during summer dry weather, upholding its positive water quality trend for the second year in a row. This is a huge accomplishment for the City of Santa Monica, which has dedicated many years and millions of dollars towards improving water quality at and around the pier. We hope this encouraging trend continues.

CBI UPDATE: Santa Monica Bay Beaches

This year, the City of Los Angeles completed the last phase of the \$40+ million year-round dry weather runoff diversion projects (funded by Prop O, CBI and ARRA funds). The project diverts runoff from eight storm drains into the Coastal Interceptor Sewer that flows to the Hyperion Treatment Plant. This is the first large scale, highly engineered year-round runoff diversion project completed in California. Currently, the eight Low Flow Diversions (LFDs) and the county-maintained LFD at Santa Monica Canyon (funded by



Prop O and led by the city) have already been completed. All eight LFD beaches received A or B grades this year during both summer and winter dry weather, which is a great accomplishment.

A Prop O funded inflatable rubber dam and the construction of its companion concrete pipe at Santa Monica Canyon will increase the system's capacity in order to accommodate runoff year-round. The rubber dam and majority of the concrete pipe are scheduled to be completed in 2012. However, the southern portion of the pipe (approximately 1,000 feet) adjacent to the City of Santa Monica may need additional work due to poor soil conditions and pipe alignment issues. This has extended the final construction completion dates into 2014.

CBI UPDATE: Los Angeles' Enclosed Beaches

Mother's Beach in Marina del Rey and Cabrillo Beach (harborside) in San Pedro are two examples of enclosed beaches. Beaches in enclosed bays are typically found to have poor water quality, due to a lack of water circulation that allows bacteria numbers to persist for longer periods of time. Public agencies responsible for oversight at these two beaches have received funding from the CBI to

implement circulation improvement projects and have implemented other water quality improvement projects as well.

In 2006, water circulating pumps were put in place at Mother’s Beach in an attempt to reduce high bacteria concentrations. An inconsistent pump schedule initially made it difficult to determine water quality improvement. However, in September 2010 the pumps started on a continuous schedule for seven days a week. Additionally, in April 2010 numerous bird deterrent devices were installed around the beach area, possibly leading to reduced bacteria concentrations in the beach water. Improved water quality at Mother’s Beach may be the result of a combination of these tactics: this year, Mother’s Beach earned A grades during the summer dry weather period at all three sampling locations (playground area, lifeguard tower and boat dock).

Heal the Bay remains concerned with the poor water quality still observed at Cabrillo Beach (harborside) despite extensive water quality improvement projects, including replacement of beach sand in the intertidal zone, removal of a rock jetty, installation of water circulation pumps and bird exclusion devices (see page 27 for more information).

CBI UPDATE: Paradise Cove

Historically, the beach adjacent to the mouth of Ramirez Canyon at Paradise Cove in Malibu has exhibited high levels of fecal indicator bacteria. In February 2009, the Kissel Company, the owner of the Paradise Cove Mobile Home Park in Malibu, was issued a proposed \$1.65 million fine by the Regional Board for allowing raw or partially treated sewage to spill into Ramirez Creek and the ocean. Specifically, the proposed fine covered the failure to comply with numerous prescribed Time Schedule Orders, discharge of raw sewage and failure to submit monitoring reports. The Regional Board, due to perceived administrative errors in their enforcement case, reduced the fine to \$54,500. Heal the Bay petitioned this greatly reduced fine to the State Water Board. The appeal has been pending for over two and half years. The State Water Board needs to deem the petition complete and schedule a hearing on the enforcement action as soon as possible.

In recent years, the owner, working with Santa Monica Baykeeper, had been proactive by putting in a runoff treatment facility near the mouth of Ramirez Creek. However, that facility was under-designed and needed to be replaced with a bigger facility. A project for an improved runoff treatment facility near the mouth of Ramirez Creek was approved by the State Water Board as part of the CBI. This project was completed July 2010 under the City of Malibu’s leadership.

This year, Paradise Cove earned a B grade during summer dry weather, yet it received D grades for both winter dry and wet weather periods. Though water quality was sporadic throughout the winter months it has not earned below an A grade in the past three months. In 2011, Heal the Bay observed algae and other organic material near Paradise Cove’s treatment facility. This organic material may be harboring bacteria and resuspending it into the treated creek water leading to poor water quality grades. Heal the Bay will continue to encourage local agencies to develop a routine maintenance plan for the storm drain at this popular swimming location.



Paradise Cove, Malibu

Summer Dry	Winter Dry	Wet Weather
B	D	D



Predictive Beach Modeling

In January 2012, Heal the Bay and Stanford University were awarded State Board CBI funds to implement a predictive modeling study. However, Heal the Bay has been anxiously anticipating this project for over four years, as we never formally applied prior to the state funding freeze in 2008. This summer, models will be developed for 25 of California's most polluted beaches, chosen to represent impaired waters up and down the coast from San Diego to Santa Cruz.

The two-year project will involve designing and testing predictive models for public notification of water quality conditions. Heal the Bay and Stanford will begin by analyzing historical fecal indicator

bacteria (FIB) densities and oceanic and atmospheric data to develop statistical models, and then examine the efficacy of the models as predictive water quality tools. Models validated as effective will be made available for implementation by beach managers. Ongoing input from California beach managers will improve model effectiveness and will help expedite implementation of successful models at our beaches. 🐟



Doheny State Beach @ San Juan Creek outlet

Summer Dry

F

Winter Dry

F

Wet Weather

F




Rapid Methods Pilot Projects

In July 2010, a Rapid Methods Pilot Study took place in Orange County to test if rapid methods were ready for everyday use to protect public health. Ideally, results from sample analysis will be obtained in as little as two to three hours instead of the typical 18-24 hours that it takes for standard culture-based methods.

From July 6–Aug. 31, 2010, the Southern California Coastal Water Research Project (SCCWRP), Orange County Department of Health Services, Orange County Sanitation Districts and other agencies initiated the study using rapid *Enterococcus* methods. The study took place at nine locations impacted by non-point sources of fecal contamination in Orange County, including three locations at Doheny State Beach and three locations at Huntington Beach. One of the primary goals of the Rapid Methods Pilot Study was to test if rapid methods were ready for everyday use to protect public health.

Samples were collected in the early morning five days a week and then taken to a lab to perform rapid *Enterococcus* measurement techniques. Three separate microbiology labs participated in the project to represent a broad range of experience levels and simulate real-life technology transfer. The results were relayed to the health department to assist in health risk management decisions. In addition, health warning notifications were electronically updated to display water quality conditions through permanently installed LED monitors at each beach location. The goal was to display near real-time water quality results (ideally before noon) for increased public health protection. The Orange County environmental group Miocean assisted county health officials in posting the information at Doheny and Huntington Beaches as soon as the data was available. Additional methods of public communication included posting results on the health department's website and tweeting to subscribers via Twitter.

This demonstration showed that the use of rapid methods is feasible and samples can be collected in the early morning with results posted before noon. The study also identified the greatest obstacles in adopting rapid methods, such as logistics, cost, capital and training costs. Due to these challenges, rapid methods are most likely to be used at the most polluted beaches first. Using rapid methods at an open ocean beach would likely be a waste of resources because those beaches are nearly always clean. Rapid methods will only provide increased public health protection if used on a routine continuous basis during high use times (at least three consecutive days weekly – Friday through Sunday).

Due to the success of Orange County's initial demonstration project, the City of Los Angeles' Environmental Monitoring Division (EMD) decided to conduct a similar project focusing on eight Los Angeles County beaches during the summer of 2011. These locations included beaches at: Malibu Creek, Topanga Canyon, Santa Monica Canyon, Mother's Beach (Marina del Rey), Ballona Creek, Redondo Pier, and the L.A. River Estuary. This project involved microbiologists from the EMD, SCCWRP, the Los Angeles County Department of Public Works, and the Los Angeles Department of Public Health. Although the rapid sample results were able to be obtained within a timely manner (between 11:30 a.m.-noon on the same day), the results did not correlate well with the current, slower methods. Also, there were problems with inhibition (i.e. chemicals or compounds in the water that interfered with data results) at a few of the beaches. Due to varying results, additional technical studies will be performed during the summer of 2012. Another demonstration project is projected to begin during the summer of 2013. 



Total Maximum Daily Loads (TMDLs)

A Total Maximum Daily Load or TMDL is the maximum amount of pollution that a waterbody can receive and still meet water quality standards. TMDLs provide a framework for addressing water quality problems and restoring a waterbody's beneficial use. Though TMDLs can be developed to address a wide range of pollutants including metals, nutrients and trash, the following TMDLs only focus on bacteria.

Ventura County TMDLs

On July 8, 2011, the Regional Board adopted a new Ventura County Municipal Storm Water Permit. *[Of note, the permit was initially adopted on May 7, 2009 but was brought back for hearing due to administrative errors].* The permit was groundbreaking for several reasons:

- It was the first time that such a permit was adopted with all applicable TMDL limits and implementation requirements
- The Harbor Beaches of Ventura County Bacteria TMDL was included in the permit and is now enforceable
- The Malibu Creek and Lagoon Bacteria TMDL was also incorporated into this permit, which is a positive step toward helping clean up Surfrider Beach

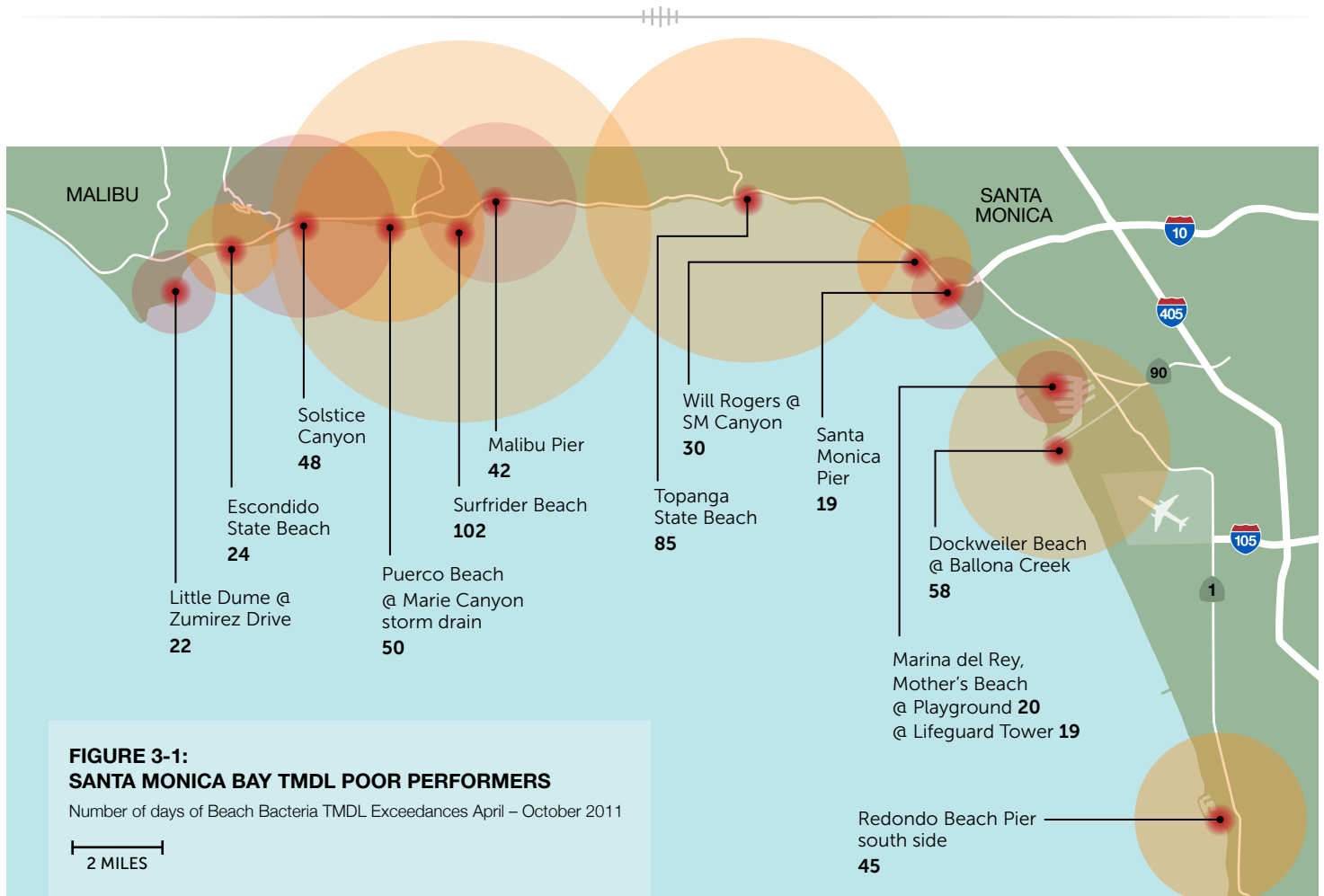
Another important aspect of the permit is that it includes weekly year-round monitoring of 10 county beaches, in the event that the current monitoring program is cut. This can serve as an important model for future permit development in ensuring the continuation of beach water quality monitoring, regardless of the state funding situation.



Ballona Creek empties into the Santa Monica Bay

Santa Monica Bay TMDLs

Every beach from the Ventura County line south to Palos Verdes was mandated to meet state beach bacteria health standards 100% of the time during the AB 411 time period (from April 1 to October 31) by July 15, 2006 and only three allowable violations during the winter dry period (from November 1st to March 31st) by July 15, 2009 or face penalties. In addition, the first winter wet weather compliance point passed in 2009; specifically the TMDL requires a 10% cumulative percentage reduction from the total exceedance day reductions required for each jurisdictional group if an integrated water resources approach is implemented. Of note, a 25% reduction is required by 2013. Marina del Rey's Mother's Beach and Back Basins had a compliance deadline for summer and winter dry weather of March 18, 2007 and Los Angeles Harbor



(Cabrillo Beach harborside and Main Ship Channel) passed the compliance deadline for both the AB 411 time period and winter dry and winter wet weather on March 10, 2010. The 100% compliance requirement for the AB 411 time period means that all of these beaches must be safe for swimming every day for the seven months from April through October. In the winter dry and winter wet time periods, beaches are allowed a specified number of exceedances in order to account for reference conditions. These requirements are within the fecal bacteria TMDLs for Santa Monica Bay, Mother's Beach, and Los Angeles Harbor.

Unfortunately, the compliance deadlines have come and gone and many of Santa Monica Bay's beaches like Surfrider Beach, Topanga State Beach (at creek mouth), Redondo Municipal Pier, Mother's Beach, Dockweiler State Beach (at Ballona Creek mouth), and Cabrillo Beach (harborside) still frequently had elevated bacteria concentrations above the TMDL limits. While some cities have made noticeable improvements in identifying and rectifying sources of ocean pollution, measures to fix chronically polluted beaches like Dockweiler State Beach (at Ballona Creek mouth), Cabrillo Beach and Surfrider have been inadequate.

Although parts of Malibu have chronically polluted beach water, a number of projects are currently occurring that could directly improve beach water quality including: a source identification project at Topanga Beach; the State Board approval of new septic system regulations (AB 885); the completion of the Civic Center water recycling facility by 2015; and low impact development (LID) and point of discharge compliance requirements, as a result of the NRDC-Santa Monica Baykeeper settlement with Malibu. Heal the Bay would like to work with all parties to develop effective solutions for these polluted beaches.

In March 2012, the Regional Board reopened a number of bacteria TMDLs in the Los Angeles region to reexamine certain technical issues based on data collected and analyzed. However, the original TMDL



Los Angeles River after rain storm and normal winter-dry conditions

compliance dates are not in question during this reopener. These TMDLs include: 1) Santa Monica Bay beaches; 2) Marina del Rey Harbor, Mothers' Beach and Back Basins; 3) Los Angeles Harbor, Cabrillo Beach harborside, and Main Ship Channel; 4) Ballona Creek, Ballona Estuary, and Sepulveda Channel; and 5) Malibu Creek and Lagoon. One amendment of concern, proposes a six-week geometric mean period instead of a 30-day period. A 30-day geometric mean period is critical for tracking and identifying chronic water quality problems, as well as public health protection of beachgoers on a day to day basis. This is also consistent with the California Ocean Plan. Another issue with the reopener of the TMDL is that it does not adequately reevaluate the current reference beach location, which was originally selected based on data collected at distance (not at point zero). Based on Heal the Bay's initial analysis, we believe another reference beach is more appropriate. Heal the Bay submitted comments to the Regional Board on the reopened TMDLs, expressing these and other concerns. A public hearing to consider adopting these amendments will be held on June 7, 2012.

Avalon Beach TMDLs

In February of 2012, the Regional Board issued a Draft Cease and Desist Order (CDO) to the City of Avalon for illegally discharging polluted water. Concurrently, the Regional Board adopted a Bacteria TMDL for Avalon Harbor. These regulatory actions will now require the City of Avalon to meet and maintain all state water quality monitoring standards or face hefty fines and penalties. Though it may take time and extensive work before Avalon's beach water quality improves, we are encouraged with the City of Avalon's progress and at the same time relieved that they will finally be held accountable for decades of poor water quality. Heal the Bay looks forward to seeing much improved beach water quality at Avalon Beach in the near future.

Los Angeles River and Santa Clara River TMDLs

The Regional Board adopted two additional bacteria TMDLs in June 2010: the Santa Clara River Bacteria TMDL and the Los Angeles River Bacteria TMDL. Unfortunately, they both have very lengthy compliance timelines. The Santa Clara River Bacteria TMDL allows 17 years for final compliance. The Los Angeles River Bacteria TMDL splits up compliance timelines by river segments. No significant action is required for the first four years, and the final segments have 25 years to meet pollution limits for

both dry and wet weather, the longest ever in the region. As a result, Heal the Bay is concerned that Long Beach beaches will remain frequently unsafe for the next two decades because the Los Angeles River has been identified as a main source of their beach pollution.

Long Beach TMDL

On March 26, 2012, the USEPA and the Los Angeles Regional Board ("Regional Board established a Bacteria TMDL for Long Beach city beaches and the Los Angeles River Estuary. This is a great step towards restoring the health of Long Beach's many chronically polluted beaches. This will also result in protecting the health of thousands of beachgoers who visit Long Beach beaches every year. However, Heal the Bay does not agree that final compliance deadlines should be consistent with lower reaches of the Los Angeles River Bacteria TMDL.

Long Beach beaches continue to be polluted by the Los Angeles River, a major source of beach water quality contamination. The City of Long Beach continues to work towards improving beach water quality, and has discovered and repaired several leaking or disconnected sewage pump lines and improperly working storm drain diversions. The city has also implemented an innovative pilot technology to disinfect runoff in the storm drains. Long Beach's water quality will continue to be directly tied to rainfall amounts and runoff volumes from the Los Angeles River, however we are encouraged that a bacteria TMDL is finally in place, and look forward to seeing continued improvements in Long Beach's beach water quality.

San Diego TMDLs

Although the Los Angeles region has been far ahead in the state on developing beach bacteria TMDLs, we have seen some action in San Diego. The first bacteria TMDL project in the San Diego region is referred to as Total Maximum Daily Loads for Indicator Bacteria, Project I – Beaches and Creeks in the San Diego Region. This TMDL was adopted by the San Diego Water Board on February 10, 2010, after changes were made to the version that was originally adopted in December 2007. On June 11, 2008, the San Diego Water Board adopted bacteria TMDLs for Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay. The TMDL Basin Plan amendment went into effect on October 26, 2009. 

Will Rogers Beach @ Santa Monica Canyon drain

Summer Dry

B

Winter Dry

A

Wet Weather

F





Major Beach News

- EPA Releases Recreational Water Quality Criteria Proposal
- EPA Slashes Federal Beach Program Funding
- Funding California's Beach Program
- End of EPA's TMDL Consent Decree
- Los Angeles County Municipal Storm Water Permit

EPA Releases Recreational Water Quality Criteria Proposal

In 2000, Congress passed the Beaches Environmental Assessment and Coastal Health Act (BEACH Act), which required the Environmental Protection Agency (EPA) to update water quality standards to better protect beachgoers from illnesses caused by bacteria and viruses. The EPA failed to meet its mandatory 2005 deadline to develop the new standards. In response, the Natural Resources Defense Council (NRDC) won an important summary judgment ruling on their BEACH Act lawsuit in April 2008.

As a result, the NRDC and EPA reached a settlement later that year, which led to the EPA agreeing to complete additional epidemiology studies, including an urban runoff-impacted beach in South Carolina and a tropical, sewage-impacted beach in Puerto Rico. The EPA also agreed to use Quantitative Microbial Risk Assessment (QMRA) techniques to assess the potential health risk from exposures to pathogens at an agriculturally-impacted freshwater beach. The deadline for the new beach water quality criteria is October 2012. This will be the first time since 1986 that these criteria have been updated.

In late December 2011, the EPA released a draft proposal of their new recreational water quality standards. Heal the Bay was anticipating the development of more protective beach water quality standards and we were greatly disappointed with the draft proposal. Heal the Bay had been working closely with EPA during the criteria development process while continuously advocating for improved and more protective standards. We are dissatisfied with many elements of EPA's draft criteria, specifically:

- **Failure to base the draft criteria on the best and most recent science.** Many high-quality studies including those conducted at Santa Monica Bay beaches and Doheny State Beach were not used during the criteria development process.
- **Allowing chronic pollution to be masked.** Polluters are only held accountable when more than 25 percent of monitoring samples exceed bacteria standards. This allows for beaches to be polluted one out of every four days with no consequences.
- **Non-protective averaging.** The draft criteria allow a seasonal geometric mean period up to 90 days. This lengthy averaging period could delay calculation of water quality fluctuations and potentially put beachgoer health at risk. A more protective method would be a shorter 30-day rolling geometric mean period. A rolling 30-day geometric mean has the ability to identify short term pollution problems and provides better public health protection.
- **Failure to require rapid testing methods.** The BEACH Act requires that the EPA analyze rapid water quality testing methods that could cut current sample processing time of 18-24 hours

down to less than four hours. Though the new draft criteria do include standards for rapid methods, they do not require their use or allow them to be used as a stand-alone method. This means that duplicate sample methods would have to be run simultaneously in order to use rapid methods. This would dramatically increase the cost of monitoring programs for states wanting to move forward with their use.

While the final criteria will not be made public until October 2012, we are determined to advocate for the criteria to be more protective of public health. Since the draft criteria document was released, Heal the Bay has spearheaded a coalition of environmental groups throughout the nation with similar concerns. Collectively, the coalition is working through the public process to move the EPA to strengthen the proposal. The 2012 beach water quality standards are critical because an opportunity to improve these standards may not come for another decade or more.

EPA Slashes Federal Beach Program Funding

Despite the recent release of the EPA's draft water quality criteria, in February 2012 the Obama administration proposed a budget that would eliminate the EPA's federal BEACH Act grant program. The roughly \$10 million of annual federal funding allows states to develop and implement water quality monitoring and notification programs. The federal funding has been \$10 million annually because Congress has not appropriated the full \$30 million amount allowable under law.

The EPA has been supplying states with federal funds for the past 10 years with many state beach programs run completely on federal funds. This cut is extremely concerning as states are only required to implement beach programs when federal funds are provided. This action will likely have a major impact on beach programs nationwide, including: the reduction in the number of monitoring locations, reduction in the frequency of monitoring and elimination of winter monitoring programs.

Routine beach water monitoring is essential for identifying polluted waters and notifying more than 90 million beachgoers who visit our nation's beaches annually. We need Congress to restore (at least) the 2012 federal funding level of approximately \$9.7 million to continue to support our valuable coastal tourism-based economies and protect the public from getting sick after a trip to the beach.

Funding California's Beach Program

In 2008, former Governor Arnold Schwarzenegger line-item vetoed nearly \$1 million of California's beach monitoring funds. Fortunately, some municipalities temporarily allocated additional local funding in order to provide this invaluable service to the beach-going public. The State Water Resources Control Board (SWRCB) directed funds from Prop. 13 and Prop. 50, in addition to federal American Recovery and Reinvestment Act (ARRA) stimulus funds, to continue the state's beach monitoring program through July 2012.

On Oct. 8, 2011 Senate Bill 482 was signed into law. This bill, which became effective on Jan. 1, 2012, allows all administrative rights and responsibilities for the beach program to be transferred from the State Department of Public Health to the SWRCB. New responsibilities given to the SWRCB include adopting, amending, and enforcing the regulations, in consultation with the Department of Public Health.

SB 482 also allows the SWRCB to direct permit fees (up to \$1.8 million annually) towards California's Beach Program. This is a key element in ensuring that beach monitoring continues in California. Unfortunately, this year California's Department of Finance recommended that Governor Jerry Brown

only approve \$1 million of the \$1.8 million allowed in the bill. *[Of note, the estimated \$1.8 million is based on the minimum funding needed to sustain a model monitoring program in California.]* Therefore, any less than the full funding amount will put major strain on California's entire beach program. Heal the Bay will continue to advocate for the allocation of the full amount of state funding.

In preparation for streamlining its new responsibilities, the SWRCB is currently collecting information from municipalities, including annual beach monitoring program costs, current monitoring locations, and monitoring frequencies. It is extremely important that the SWRCB use this opportunity to develop protective monitoring and notification requirements in order for counties to qualify for these funds.

Some of Heal the Bay's monitoring requirement recommendations include:


- Beach water samples should be taken in areas of highest expected bacteria levels and highest recreational use.
- Monitoring agencies must continue to monitor at least 80% of the locations monitored prior to the 2008 state budget cuts.
- Sampling frequency should increase with beach use and/or public health risk.
- Public notification of water quality should occur immediately after sampling results are available.
- Monitoring agencies and dischargers should be required to work together to streamline and enhance coastal monitoring for year-round public health protection.

End of EPA's TMDL Consent Decree

Under the Clean Water Act (CWA) states are required to develop pollution reduction plans for waters that are deemed impaired by pollutants. These plans, also called Total Maximum Daily Loads (TMDL's) must be approved by the EPA after they are developed.

As a part of the 1999 consent decree between the EPA and local environmental groups, including Heal the Bay, the EPA committed to approve or independently establish a list of TMDL's for waterbodies in the Los Angeles Region. As a result, 47 TMDL's have been established for 175 waterbodies which address impairments that include elevated bacteria, metals, pesticides, PCBs and trash. The consent decree has put Los Angeles and Ventura counties back on track for having oceans and rivers that are safe for swimming. Heal the Bay looks forward to a huge water quality improvement in impaired waters once all pollution reduction plans are fully implemented.

Los Angeles County Municipal Storm Water Permit

This summer Heal the Bay and other local NGOs will lead efforts to ensure that the Regional Board adopts a strong municipal storm water permit (MS4). The last MS4 permit was adopted in 2001 prior to the adoption of critical bacteria TMDLs. Thus, it is extremely important that the MS4 include all bacteria TMDL numeric waste load allocations (pollution limits) and associated compliance deadlines. As the Santa Monica Bay dry weather TMDLs are six years overdue for compliance, this action is particularly important to ensure that the TMDLs can be enforced. Other elements of the MS4 are also critical for the beaches program, such as the inclusion of routine monitoring locations. The adoption hearing for the MS4 is expected in September 2012. 



Colorado Lagoon North, Long Beach

Summer Dry

B

Winter Dry

A

Wet Weather

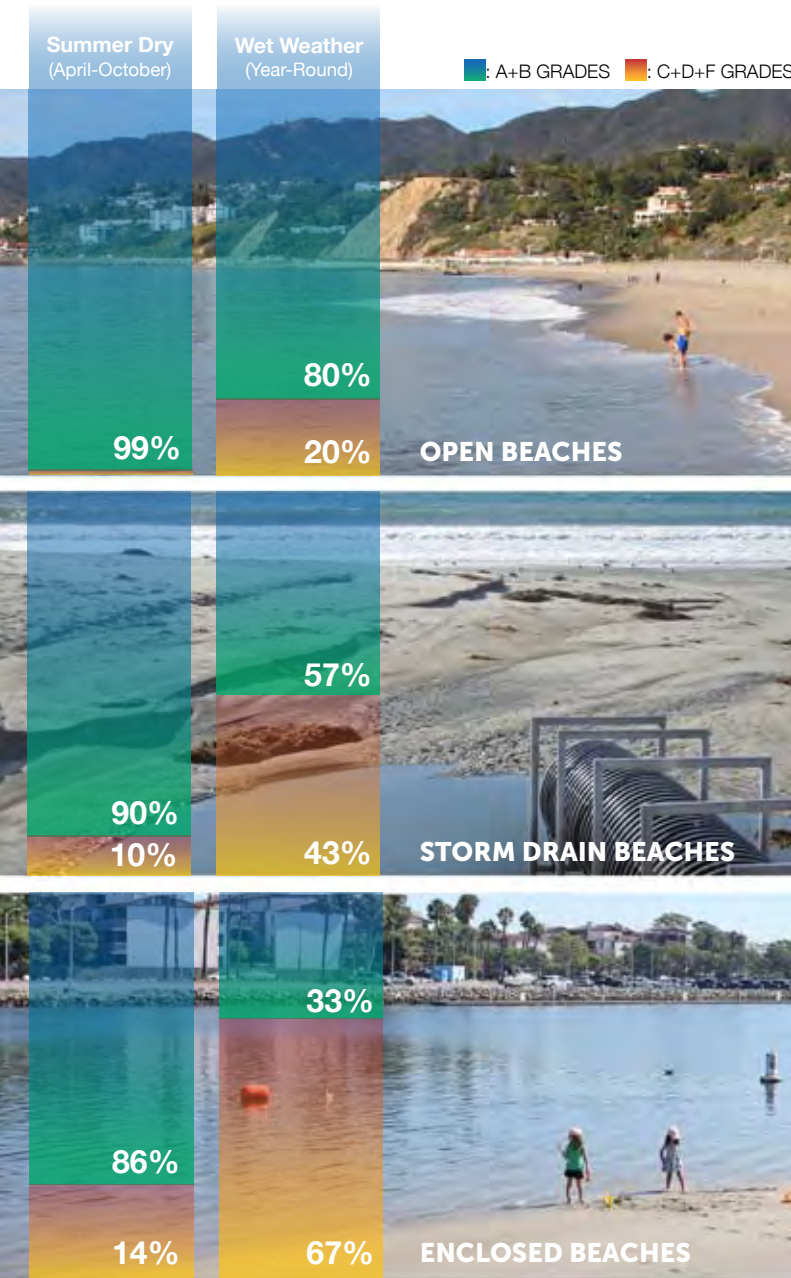
F



Beach Types and Water Quality

Beach monitoring data was analyzed to determine differences in water quality based on beach type. Most beaches were divided into three categories: open ocean beaches, beaches adjacent to a creek, river, or storm drain (natural or concrete) and beaches located within enclosed water bodies.

FIGURE 3-2: 2011-2012 “GOOD” AND “POOR” GRADES BY TYPE



The grades were analyzed for all three time periods: summer dry season (April through October), winter dry weather (November through March) and year-round wet weather conditions. Figures 3-2 through 3-4 illustrate the grades by percent during each time period. This comparison clearly demonstrates that water quality at open ocean beaches is far superior to water quality at enclosed and storm drain impacted beaches. In essence, a swimmer has a nearly 100% chance of finding excellent water quality at an open ocean beach with no known pollution source during dry weather. The results also demonstrate that most of California’s beaches are very clean during dry weather and that natural sources like wildlife and beach wrack are not causing poor water quality at open beaches—by far the most prevalent type of beach in Southern California. However, this does not mean that wildlife and beach wrack do not contribute to high bacteria densities in areas with greater anthropogenic influences like storm drain and enclosed beaches.

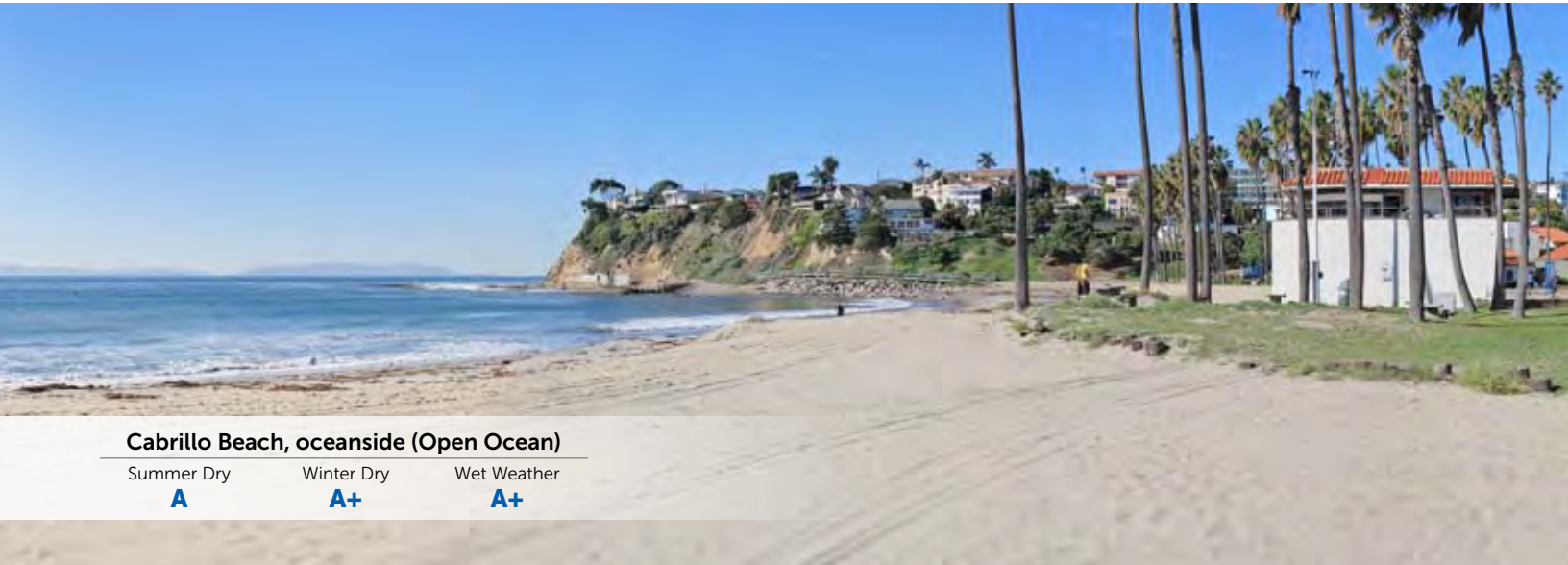
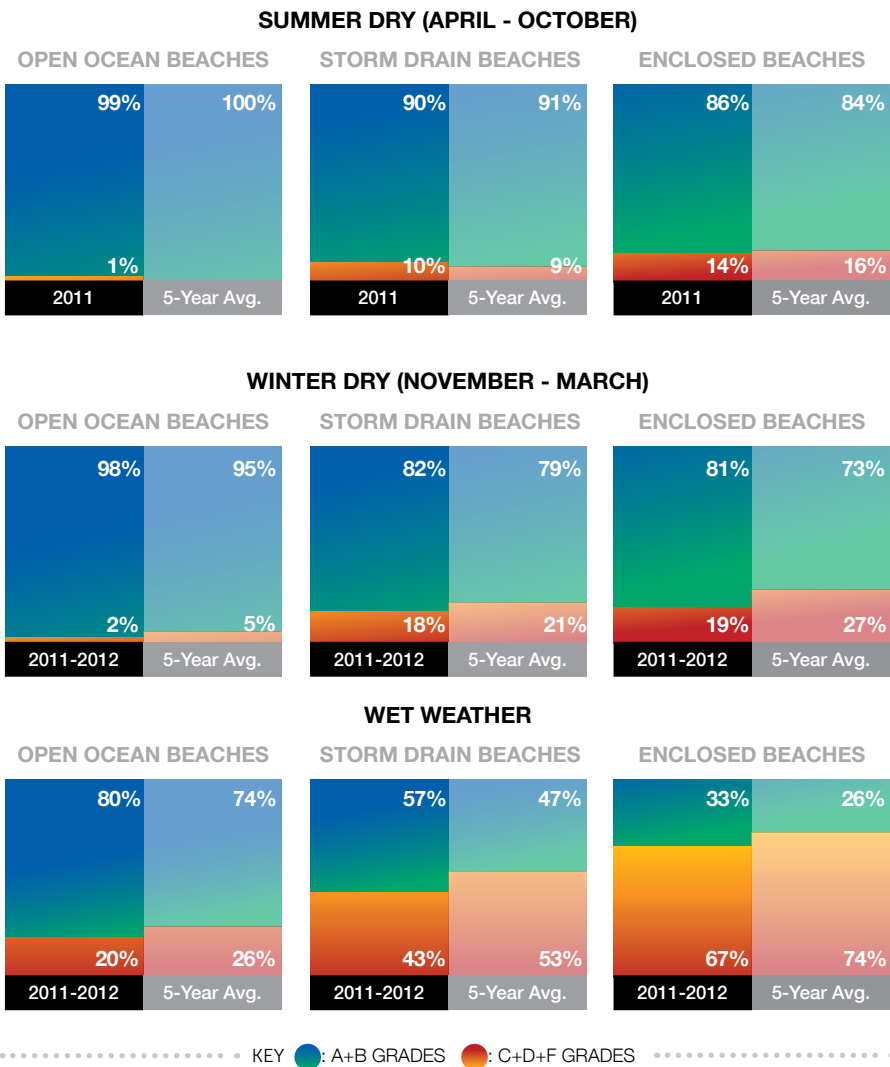
Photos by beach type (top to bottom): Will Rogers Beach, Torrance “RAT” Beach, Mother’s Beach - Long Beach Marina.

Storm Drain Pollution

Los Angeles County remains one of the only counties in the state (along with Humboldt County, San Francisco County and portions of San Diego County) to modify its monitoring program to collect samples directly in front of flowing storm drains and creeks. This change in Los Angeles County was a result of the Santa Monica Bay Beach Bacteria TMDL requirements and associated implementation plans designed to restore water quality and protect public health and aquatic life.

FIGURE 3-3: GOOD AND POOR GRADES BY TIME PERIOD

Percentage of Good (A+B) and Poor (C-F) Grades by Beach Type and Time Period



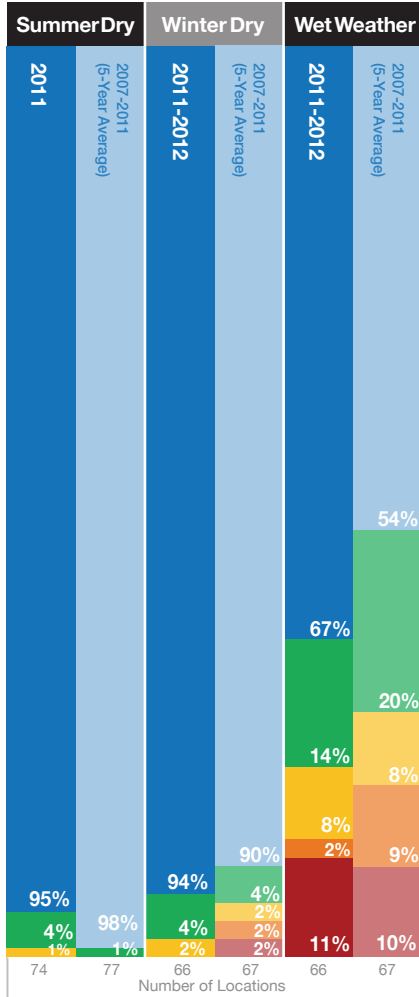
Cabrillo Beach, oceanside (Open Ocean)

Summer Dry: A, Winter Dry: A+, Wet Weather: A+

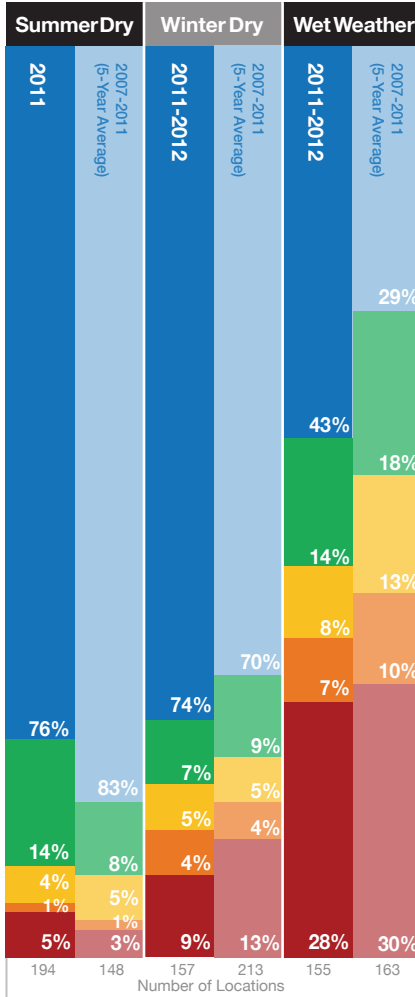
FIGURE 3-4: BEACH POLLUTION PATTERNS

Percentage of Grades by Beach Type, Time Period. Percentages may not add up to 100 due to rounding.

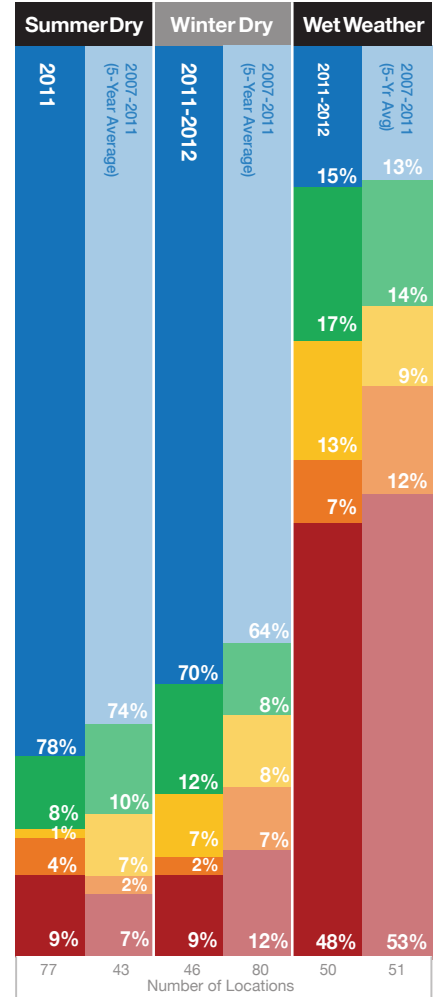
OPEN OCEAN BEACHES



STORM DRAIN BEACHES



ENCLOSED BEACHES



Cabrillo Beach, harborside (Enclosed)

Summer Dry	Winter Dry	Wet Weather
F	F	F

Poche Beach creek outlet pond

Summer Dry	Winter Dry	Wet Weather
F	F	F





Recommendations for the Coming Year

- Approve full funding for California's Beach Program
- Urge the EPA to improve public health protection in the 2012 Criteria and reinstate federal beach program funds
- Advocate for the monitoring of the most popular beaches year-round
- Incorporate TMDL's into all Storm Water Permits
- Develop and enforce sanitary survey protocol requirements
- Finalize California's on-site wastewater treatment system regulations
- Support the Los Angeles County storm water funding initiative

1. Approve full funding for California's Beach Program

SB 482 allows the State Board to direct permit fees up to \$1.8 million towards California's Beach Program. This is the minimum funding needed for California to sustain a beach monitoring program. This year, only \$1 million (of \$1.8 million) was approved by the state to fund the entire beach monitoring program. This will seriously affect the number and frequency of beaches monitored, especially locations sampled throughout the winter months. Monitoring reduction not only produces inconsistencies in beach data but most importantly, has the potential to increase public health risks for millions of beachgoers. This year, Heal the Bay and other local agencies plan to advocate for the full Beach Program funding amount, in order to uphold California's current level of public health protection.

2. Urge the EPA to improve public health protection in the 2012 Criteria and reinstate federal beach program funds

The EPA's Recreational Water Quality Criteria will be released in October 2012, updating the 1986 criteria for the first time in 25 years. Heal the Bay has major concerns, specifically with a lack of public health protection, with the EPA's proposed Draft Criteria released in December 2011. In order to uphold clean and safe recreational waters, it is imperative that the 2012 criteria are strengthened by using the best available science. It is also critical that incentives for rapid methods are included in the criteria, so beachgoers can look forward to receiving beach water quality results the same day. Although Heal the Bay has been working closely with EPA throughout the criteria development process, we will continue to encourage and promote more protective standards until the final criteria are released.

Despite this, public health protection may seriously be jeopardized if states are not provided federal funds to implement beach monitoring. In February 2012, the EPA cut roughly \$10 million of annual federal funding, which allowed states to implement water quality and notification programs. It is extremely important for EPA to realize the negative consequences and ramifications associated with the lack of beach program funding. The ability to track chronically polluted beaches and protect the health of millions of people will be at risk. Access to non-polluted, clean recreational water is a basic human right and must be protected. Heal the Bay will continue to advocate for this crucial federal funding, in order to at least maintain the current level of public health protection across the nation.

3. Advocate for the monitoring of the most popular beaches year-round

Though funding for California's beach program has been very inconsistent, year-round monitoring at highly populated beaches should be a priority. It is critical that health departments, monitoring agencies and dischargers work together to implement a model monitoring program. This includes prioritizing beach monitoring locations and frequency based on historical water quality data, public access and levels of public-use. A model monitoring program should also include point-zero monitoring,

increased monitoring at highly populated beaches and timely public notification. All elements are extremely important in providing a high level of public health protection for all those who swim, surf or recreate in or near the beach.



4. Incorporate TMDL's into all Storm Water Permits

Incorporating numeric TMDL waste load allocations (WLAs) and associated compliance milestones and deadlines into all storm water permits (i.e. municipal, industrial, construction, general) is essential to ensure that TMDLs are easily enforceable. In September, the Los Angeles Regional Board will vote on whether to include all Los Angeles County issued TMDLs into the Municipal Separate Storm Sewer System (MS4) permit.

The Santa Monica Bay Beaches Bacteria TMDLs and

Marina del Rey Bacteria TMDL had been included in the MS4. However, these were later removed from the permit due to an attorney error. It has been nearly a decade since these TMDLs were adopted, and dry weather compliance deadlines have passed. Thus, it is critical that the TMDLs are immediately placed in the MS4 and compliance deadlines are enforced. Heal the Bay will be running a campaign this summer leading up to the September hearing that advocates strict compliance deadlines and numerical TMDLs for storm water dischargers. In addition other statewide storm water permits will be adopted later this year (Caltrans, Phase II MS4, and Industrial). Heal the Bay is advocating for TMDL WLAs and compliance deadlines to be included in all of these permits as well.


5. Develop and enforce sanitary survey protocol requirements

Sanitary surveys are a tool used to investigate sources of fecal contamination to a water body. Though typically used in drinking water programs they provide a useful way of identifying sources of beach pollution, particularly at beaches that exceed standards with no known pollution source. Beach sanitary surveys involve collecting beach and watershed data including number/location of birds, bathroom location, residential septic tank information, location of storm water outfalls, kelp and/or algae amounts, and beach water quality to name a few. However, sanitary surveys have the potential to deem a beach's water quality exceedances a result of natural or environmental conditions, which could inappropriately be used as an excuse to reduce or eliminate water quality monitoring. Currently, no enforceable sanitary survey protocol requirements exist in the state. Though sanitary surveys are very costly, funding is not always readily available to develop and implement a sanitary survey, which is critical for understanding all sources of bacteria pollution. Heal the Bay encourages the State Board to develop and enforce sanitary survey protocol requirements, including a thorough analysis of historical water quality data before funding future sanitary surveys.

6. Finalize California's on-site wastewater treatment system regulations

California currently has no statewide regulations on on-site wastewater treatment systems (septic tanks) despite the fact that the California legal deadline to adopt regulations was in 2004. Various counties and regional boards regulate septic tanks very differently, and in many cases, insufficiently to protect water quality. In fact, an existing unmaintained septic system from the 1950s could be contaminating groundwater and/or nearby creeks, streams or beaches with no one knowing that it is a problem. On March 19, 2012, the State Board released a draft of the first-ever statewide septic system policy. The draft policy sets advanced treatment standard limits for nitrogen and bacteria for new or newly updated septic systems within 600 feet of an impaired water body (on the State's 303(d) list). However, it does not account for existing septic systems or septic systems near non-impaired water bodies. It is critical for the State Board to include requirements for existing septic systems that could contribute to future impairments. Among our more critical concerns, the State Board failed to include compliance deadlines for septic systems in high risk areas (within 600 feet) adjacent to fecal bacteria and nutrient impaired waters. High risk systems should be required to go to advanced treatment (disinfection and/or nitrogen removal) by a date no later than five years after the approval of the TMDL for the impaired receiving water. Also, there are no system performance, inspection or monitoring requirements for existing systems, even those right next to drinking water wells, creeks and beaches. As currently written, the draft regulations will not result in markedly improved beach water quality and improved public health protection. This does not bode well for cleaning up problem beaches potentially impacted by on-site systems like the Malibu Beach Bummers at Topanga, Surfrider, Puerco Beach @ Marie Canyon, Solstice and Escondido beaches. Heal the Bay submitted comments addressing these and other concerns and will continue to advocate for strong statewide septic system regulations. We have also been working closely with the State Board and other stakeholders to modify the language of the policy to address some of these issues. The statewide septic system policy's final adoption hearing is scheduled for June 19, 2012, where some of these changes will hopefully be incorporated.

7. Support the Los Angeles County storm water funding initiative

The County of Los Angeles is coordinating with the cities within the county to bring a water quality funding initiative to property owners via a mail ballot measure in March 2013. The initiative would raise much needed funds for water quality improvement projects, with an emphasis on multiple benefit and sustainable solutions projects. This funding would help fund projects aimed at reducing bacteria pollution, among other pollutants. If the measure passes, the funds would become available to the County and cities in February 2014. Heal the Bay is working with the County and City of Los Angeles to ensure that the program developed is strong and will lead to measurable water quality improvements. 

Manhattan Beach Pier

Summer Dry

A

Winter Dry

A

Wet Weather

B





Frequently Asked Questions (FAQs)

Heal the Bay is a nonprofit environmental organization making Southern California coastal waters and watersheds, including Santa Monica Bay, safe, healthy and clean. We use science, education, community action and advocacy to pursue our mission.

What is the Beach Report Card?

Ocean water quality is vital to the health of the millions who recreate in coastal waters. Heal the Bay's Beach Report Card (BRC) is a vital public health protection tool based on the monitoring of beaches conducted by local health agencies and dischargers.

Since the BRC was first published more than 20 years ago, beachgoers throughout California have come to rely on the annual and weekly grades to better protect their health and the health of their families. The BRC grades over 650 locations along the West Coast for summer dry weather and over 300 locations year-round on an A-to-F scale based on the risk of adverse health effects to beachgoers. Grades are based on fecal bacteria pollution concentrations in the surf zone. Water samples are analyzed for bacteria that indicate pollution from numerous sources, including fecal waste. The better the grade a beach receives, the lower the risk of illness to ocean users.

The BRC should be used like the SPF ratings in sunblock—beachgoers should determine what they are comfortable with in terms of relative risk, and then make the necessary decisions to protect their health. Heal the Bay urges coastal beachgoers to use the information before they go to any beach on the West Coast.

The Beach Report Card would not be possible without the cooperation of all of the shoreline monitoring agencies in California, Oregon and Washington.

What is the history of the BRC?

Heal the Bay's first Beach Report Card was published in 1990 and covered about 60 monitoring locations in Los Angeles County from Leo Carrillo Beach (near the Ventura County line) to Cabrillo Beach in San Pedro. At that time, beachgoers knew little about the health risks of swimming in polluted waters or the water quality at any of their favorite beaches in Los Angeles County. Beach water quality was a public issue only when a substantial sewage spill occurred. Although beaches were routinely monitored, the data were either inaccessible or unusable to the public.

Since then, a great deal of work has been completed to reduce urban runoff pollution and sewage spills at our local beaches. Heal the Bay is proud to announce its influence on and participation in the following:

- **Scientific studies** such as the Santa Monica Bay Restoration Project's epidemiological study on swimmers at runoff polluted beaches and the Southern California Coastal Water Research Project's (SCCWRP) bight-wide shoreline bacteria and laboratory inter-calibration study have been completed.

- **Legislation**, such as the statewide beach bathing water standards and public notification bill (AB 411), and the protocol for identifying sources of fecal indicator bacteria (FIB) at high-use beaches that are impacted by flowing storm drains (AB 538) that have been signed into law.
- **Structural best management practices** such as the Santa Monica Urban Runoff Recycling Facility (SMURRF), dry weather runoff diversions, and nearly \$100 million in California's Clean Beach Initiative (CBI) projects throughout the state.
- **Proposition O**. The City of Los Angeles is spending over \$100 million of Proposition O funds to make Santa Monica Bay beaches cleaner and safer for public use.

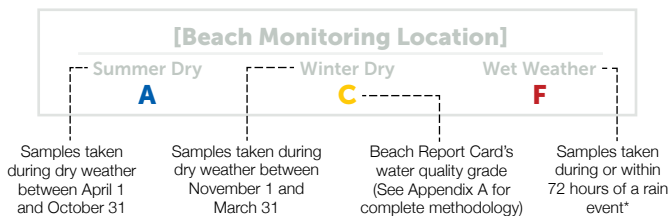
All the while, Heal the Bay's Beach Report Card has grown in coverage, expanding from Los Angeles County to the entire western United States coastline.

What do the grades mean to the beach user?

Recreating in waters with increased bacteria concentrations has been associated with increased risks to human health. The higher the grade a beach receives, the better the water quality at that beach. The lower the grade, the greater the health risk.

Potential illnesses include stomach flu, eye/ear infections, upper respiratory infection and major skin rash (full body). The known risks of contracting illnesses associated with each threshold are based on a one-time, single day of exposure (head immersed while swimming) to polluted water. Increasing frequency of exposure or the magnitude of bacteria densities may significantly increase an ocean user's risk of contracting any one of a number of these illnesses.

**FIGURE 3-5:
HOW TO READ THE BEACH REPORT CARD**



BEACH REPORT CARD APP

Beachgoers can view Heal the Bay's Beach Report Card from any Internet-enabled device at beachreportcard.org and/or download the Beach Report Card mobile app for iPhone or Android. The new, free Beach Report Card app provides access anytime and anywhere to a comprehensive, weekly analysis of West Coast water quality.



How are grades calculated?

Heal the Bay's grading system takes into consideration the magnitude and frequency of exceedances above allowed bacterial levels over the course of the specified time period. Each BRC year contains three time/weather periods:

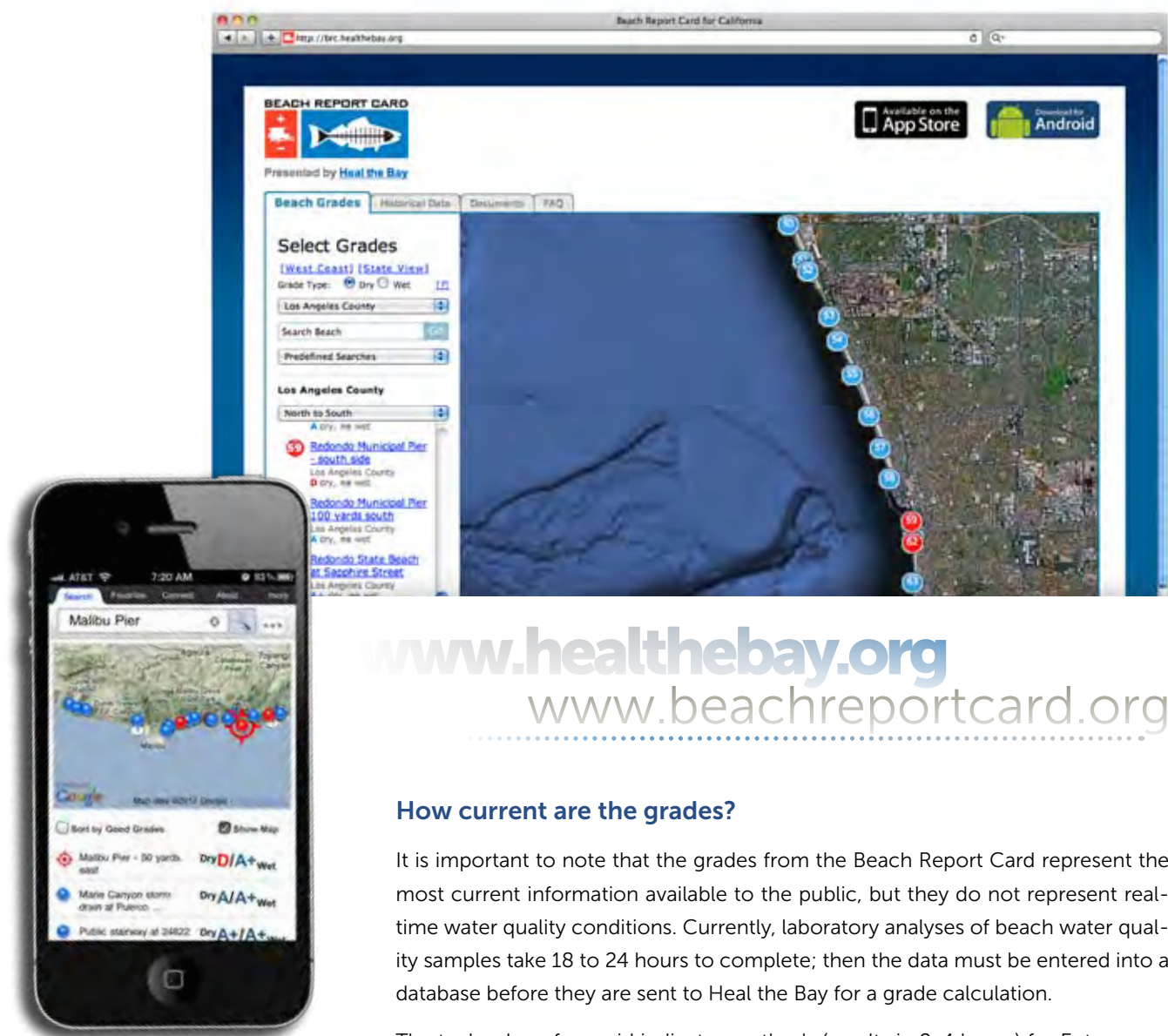
- **Summer Dry** = Samples taken during dry weather between April 1 and October 31
- **Winter Dry** = Samples taken during dry weather between November 1 and March 31
- **Wet Weather** = Samples taken during or within 72 hours of a rain event*

Water quality typically drops dramatically during and immediately after a rainstorm, but often rebounds to its previous level within a few days. For this reason, year-round wet weather data throughout California were analyzed separately in order to avoid artificially lowering a location's grade, and to provide better understanding of statewide beach water quality impacts.

Most of Oregon's and Washington's wet weather samples were not included in this report due to limited monitoring data.

**Heal the Bay utilizes a definition of a 'rain event' as precipitation greater than or equal to one tenth of an inch (> 0.1"). Oregon and Washington use criteria of >.2" precipitation.*

For complete methodology, see Appendix A1-3.



How current are the grades?

It is important to note that the grades from the Beach Report Card represent the most current information available to the public, but they do not represent real-time water quality conditions. Currently, laboratory analyses of beach water quality samples take 18 to 24 hours to complete; then the data must be entered into a database before they are sent to Heal the Bay for a grade calculation.

The technology for rapid indicator methods (results in 2-4 hours) for *Enterococcus* bacteria will be widely available for use by monitoring agencies, according to the EPA's Draft Recreational Water Quality Criteria ("Draft Criteria"). However, the Draft Criteria do not recommend rapid methods as a stand-alone method, meaning the slower current method would need to be analyzed in duplicate with rapid methods. Implementing both methods is unrealistic for most agencies, as many laboratories are struggling to finance their current monitoring programs.

What type of pollution is measured?

Runoff from creeks, rivers and storm drains are sources of pollution to California, Oregon and Washington beaches. Runoff may contain toxic heavy metals, pesticides, fertilizers, petroleum hydrocarbons, animal waste, trash and even human sewage.

The amounts of indicator bacteria present in runoff, and consequently in the surf-zone, is currently the best indication of whether or not a beach is safe for recreational water contact. The link between swimming in waters containing elevated levels of indicator bacteria and health risk was confirmed in the ground breaking 1995 epidemiological study conducted by the University of Southern California, Orange County Sanitation District, the City of Los Angeles and Heal the Bay, under the



A warning sign is posted anytime bacteriological standards are exceeded

auspices of the Santa Monica Bay Restoration Project.

Indicator bacteria are not usually the microorganisms that cause bather illness. Instead, their presence indicates the potential for water contamination with other pathogenic microorganisms such as bacteria, viruses and protozoa that do pose a health risk to humans. The BRC includes an analysis of shoreline (ankle-deep) water quality data collected by more than 25 different State, County, and City public agencies for fecal indicator bacteria.

At present, the report card contains no information on toxins or trash in the water or on the beach.

ABOUT INDICATOR BACTERIA

- Total coliform
- Fecal coliform (or *E. coli*)
- Enterococcus

Total coliform, which contains coliform of all types, originates from many sources including soil, plants, animals and humans. Fecal coliform and Enterococcus bacteria are found in the fecal matter of mammals and birds. This fecal matter does not necessarily come from humans, although numerous prior studies have demonstrated that there is a significant possibility of human sewage contamination in storm drain runoff at any given time.

Why is storm drain pollution so significant?

Health officials and Heal the Bay recommend that beach users never swim within 100 yards on either side of a flowing storm drain, in any coastal waters during a rainstorm, and for at least three days after a storm has ended. Storm drain runoff is the greatest source of pollution to local beaches, flowing untreated to the coast and often contaminated with motor oil, animal waste, pesticides, yard waste and trash. After a rain, indicator bacteria densities often far exceed state health criteria for recreational water use.

Children often play directly in front of storm drains and in runoff-filled ponds and lagoons. Monitoring at “point zero” (the mouth of storm drains or creeks) is the best way to ensure that the health risks to all swimmers are minimized. This is one recommendation among several that Heal the Bay has made to state officials to improve water quality monitoring and better protect public health. In fact, point zero monitoring should be a criterion for receiving state beach water quality monitoring funds. A complete list of recommendations can be found at the end of this document.

For more on storm drain beaches, see “Beach Types” on page 67.

Are beaches monitored year round?

This is the Beach Report Card’s second year of grading water quality along the entire U.S. Pacific Coastline. A total of 694 shoreline monitoring locations were analyzed from Whatcom County in Washington to San Diego County at the Mexican border. Most sample locations are selected by monitoring, health, and regulatory agencies to specifically target popular beaches, shellfish beaches and/or those beaches frequently affected by runoff.

According to the Environmental Protection Agency (EPA) Beaches Environmental Assessment and Coastal Health Act (BEACH Act) of 2000, each state having coastal recreation waters has to adopt water quality standards for bacteria in order to qualify for federal beach monitoring funding. Therefore, each state has the ability to adopt its own standards.

In California, water quality samples are collected by the appropriate agency at a minimum of once a week from April through October as required under the California Beach Bathing Water Quality Standards (AB 411) and recommended by EPA's National Beach Guidance and Performance Criteria for Recreational Waters (EPA's BEACH program). Some agencies conduct year-round sampling, while others scale back their monitoring programs dramatically from November through March, despite the fact that many surfers and ocean swimmers are in the water year-round.

The majority of Oregon and Washington water quality monitoring occurs during the summer swimming season (Memorial Day through Labor Day). Although Oregon and Washington state agencies monitor beaches on a selective basis throughout the winter months, the sampling frequency did not meet the BRC's minimum grading criterion of at least one sample per week.

Why not test for viruses?

A common question asked by beachgoers is: "Because viruses are thought to cause many of the swimming-associated illnesses, why don't health agencies monitor directly for viruses instead of indicator bacteria?" Although virus monitoring is incredibly useful in identifying sources of fecal pollution, there are a number of drawbacks to the currently available virus measurement methods. There have been tremendous breakthroughs in the use of gene probes to analyze water samples for virus or human pathogenic bacteria but currently these techniques are still relatively expensive, highly technical and not very quantitative. In addition, since human viruses are not found in high densities in ocean water and their densities are highly variable, setting standards for viruses is not currently feasible. Interference from other pollutants in runoff can make virus quantification very difficult. Also, interpretation of virus monitoring data is difficult because, unlike bacterial indicators, there are currently no data available that link health risks associated with swimming in beach water to virus densities.

Local epidemiology studies, which include a component to identify and quantify viral pathogens, began four and a half years ago. These large scale epidemiology studies (using over 30 microbial indicators) was led by the Southern California Coastal Water Research Project (SCCWRP), UC Berkeley, Orange County Sanitation Districts, the USEPA, and Heal the Bay. The studies took place at Doheny State Beach, Avalon Beach and Surfrider Beach in Malibu.

In January 2012, the article "Rapid Indicators for Enterococcus and the Risk of Illness after Exposure to Urban Runoff Contaminated Marine Water" to assess the risk of illness after exposure to urban runoff contaminated marine water was published in Water Research, based on the epidemiology study performed at Doheny State Beach between 2007-2008. See page 22 for more information.







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Beach Report Card Methodology: California

Heal the Bay's Beach Report Card grading system is endorsed by the SWRCB and the Beach Water Quality Workgroup as an effective way to communicate beach water quality to the public.

Past amendments to the grading methodology have included:

- The inclusion of the geometric mean into the calculation
- A firm zero-to-100 point scale
- Greater weight for *Enterococcus* and the total to fecal ratio relative to total coliform and fecal coliform

The methodology retains past modifications to the report card, such as the inclusion of new indicator bacteria thresholds (namely the total-to-fecal ratio), developed by the Santa Monica Bay Restoration Commission in the 1996 health effects studies of Santa Monica Bay beachgoers. It also retains the implementation of standard deviations for each indicator bacteria threshold, which was developed by the Southern California Coastal Water Research Project and Orange County Sanitation Districts during the 1998 Southern California Bight Study. Each threshold is based on the prescribed standards set in the California Department Health Service's Beach Bathing Water Standards.

As seen in Figure 4-1 the methodology uses a standard A through F grading system, and grades are based on the following formula:

$$\% \text{ Grade} = \frac{\text{'TOTAL POINTS AVAILABLE' - 'TOTAL POINTS LOST'}}{\text{'TOTAL POINTS AVAILABLE'}}$$

[Note: The Annual and End-of-Summer Beach Report Card methodology is modified slightly to accommodate the longer time period. For example: no greater significance is given to the most recent samples.]

Total Points Available

'Total Points Available' is derived from adding together two point components (if applicable): the Geometric Mean and the Single Sample Standard. The points for each component are listed in Table 4-1.

In order for the points in each component to become available, certain criteria must be met. (For example, the geometric mean points will be added to the 'Total Points Available' only if there are

FIGURE 4-1: GRADING SYSTEM

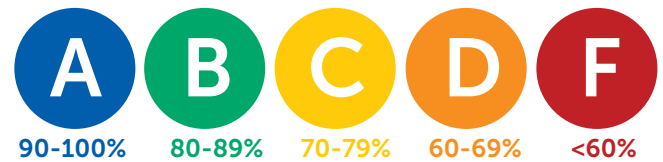


TABLE 4-1: TOTAL POINTS AVAILABLE BY COMPONENT

Geometric Mean	50 points
Single Sample Standard	50 points
Total	100 points

a minimum of four dry weather samples collected within the allotted time frame). Wet weather data is graded separately from dry weather data, and does not currently include a geometric mean component. Therefore, it is possible for 'Total Points Available' to be less than 100. The new grading methodology allows for a relative grade to be determined based on the actual monitoring completed.

Once the 'Total Available Points' has been determined for a specific location, then the 'Total Points Lost' can be calculated for the applicable grade components.

Total Points Lost

Separate calculations are used to quantify 'Total Points Lost' for each applicable component from the 'Total Available Points'. The following describes the two calculations.

Geometric Mean

Calculating the 'Total Points Lost' for the geometric mean component involves using the rolling 30-day geometric mean values calculated for each sample day (see Table 4-2).

Each geometric mean criterion exceeded is assigned a specific percentage of points lost. Non-exceedances are given 0%. The percentage of points lost from each of the three criteria divided by the number of sample days are multiplied by the 'Total Available Points' (any sum of percentages exceeding 100% automatically loses all 50 points available in the geometric mean component).

Single Sample Standard

Calculating the 'Total Points Lost' for the Single Sample Standard component is similar to the calculation used for deriving the points lost for the Geometric Mean. However, the Single Sample Standard component uses a gradient to calculate the 'Total Points Lost'. The gradient of percentage points lost used in calculating the number of points lost is derived from work completed by the Southern California Coastal Water Research Project and Orange County Sanitation District as part of the 1998 Southern California Coastal Bight Study (see Table 4-3).

'Percentage of points lost' is allocated depending upon the threshold exceeded by each of the four criteria. Each single sample criterion exceeded is given a 'percentage of points lost'. These amounts are presented in Table 4-4.

Non-exceedances are given 0%. The 'percentage of points lost' from each of the four criteria for each sample during the time period are added together and divided by the total number of samples. Once this number is calculated (total 'percentage of points lost' divided by total number of samples), it is multiplied by the 'Total Available Points'. In the Single Sample Standard component, more points are lost as the magnitude or frequency of exceedances increases.

Points lost from the Single Sample Standard component are added to the points lost in the Geometric Mean component (if applicable) and this sum becomes 'Total Points Lost'. Once the 'Total Points Available' and the 'Total Points Lost' are calculated, a grade for a particular sample site can be determined.

TABLE 4-2: CALCULATING THE TOTAL POINTS LOST FOR THE GEOMETRIC MEAN COMPONENT

Indicator Exceeded	Calif. Beach Bathing Water Standard	% of Total Available Points Lost* Due to Exceedance	Total Available Points
Enterococcus	35	80%	50
Fecal Coliform	200	40%	
Total Coliform	1000	20%	

* Colony forming units per 100 milliliters of ocean water

TABLE 4-3: SINGLE SAMPLE GRADIENT THRESHOLDS IN CFU/100ML *

Indicator Bacteria	SLIGHT T - 1 SD	MODERATE T + 1 SD	HIGH > T + 1 SD	EXTREME Very High Risk
Total Coliform	6,711-9,999	10,000 -14,900	> 14,900	N/A
Fecal Coliform	268-399	400 -596	> 596	N/A
Enterococcus	70-103	104 -155	> 155	N/A
Total: Fecal Ratio (when total ≥ 1,000)	10.1-13	7.1- 10	2.1-7	< 2.1

* Colony forming units per 100 milliliters of ocean water

SD = Standard Deviation

Bold = California State Health Department standards for a single sample


N/A = Not applicable

TABLE 4-4: CALCULATING THE TOTAL POINTS LOST FOR THE SINGLE SAMPLE STANDARD COMPONENT

Indicator Exceeded	SLIGHT % Points Lost	MODERATE % Points Lost	HIGH % Points Lost	EXTREME % Points Lost	Total Available Points
Total Coliform	10%	30%	40%	N/A	50
Fecal Coliform	10%	30%	40%	N/A	
Enterococcus	20%	40%	60%	N/A	
Ratio (when total > 1,000)	25%	50%	75%	100%	

Determining a Grade

$$\% \text{ Grade} = \frac{\text{'TOTAL POINTS AVAILABLE'} - \text{'TOTAL POINTS LOST'}}{\text{'TOTAL POINTS AVAILABLE'}}$$

Most dry and wet weather annual grades are calculated with 100 'Total Available Points', although there is no Geometric Mean component for wet weather grading. Wet weather grades are calculated by the total 'percentage of points lost' divided by the total number of samples and then multiplied by 100. This gives the location's score for wet weather 'Total Points Lost'. This number is then subtracted from 100 to give the percentage grade. 

Beach Report Card Methodology: Oregon and Washington

The Oregon and Washington state grade methodology (two Enterococcus-only standards) was adapted as fairly as possible from the seven standard California methodology (see Appendix A1).

FIGURE 4-2: GRADING SYSTEM

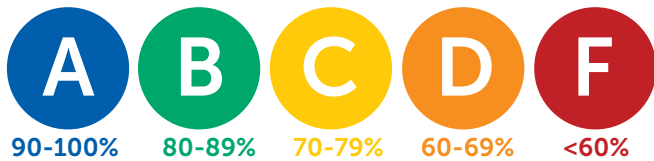


TABLE 4-5:
TOTAL POINTS AVAILABLE BY COMPONENT

Geometric Mean	50 points
Single Sample Standard	50 points
Total	100 points

TABLE 4-6:
SINGLE SAMPLE GRADIENT THRESHOLDS IN CFU/100ML*

Indicator Bacteria	SLIGHT T – 1 SD	MODERATE T + 1 SD	HIGH > T + 1 S
Enterococcus	70-103	104 -155	>155

* Colony forming units per 100 milliliters of ocean water
SD = Standard Deviation

Bold = California State Health Department standards for a single sample

TABLE 4-7:
CALCULATING THE TOTAL POINTS LOST FOR THE
SINGLE SAMPLE STANDARD COMPONENT

Indicator Exceeded	SLIGHT % Points Lost	MODERATE % Points Lost	HIGH % Points Lost	Total Available Points
Enterococcus	25%	75%	100%	50

Total Points Available

As seen in Figure 4-2, the methodology uses a standard A through F grading system, and grades are based on the following formula:

$$\% \text{ Grade} = \frac{\text{'TOTAL POINTS AVAILABLE'} - \text{'TOTAL POINTS LOST'}}{\text{'TOTAL POINTS AVAILABLE'}}$$

Note: The Annual and End-of-Summer Beach Report Card methodology is modified slightly to accommodate the longer time period. (For example: no greater significance is given to the most recent samples.)

Wet weather data (≥ 0.2 inches of rain in previous 72 hours) is graded separately from dry weather data and does not currently include a geometric mean component.

'Total Points Available' is derived from adding together two point components (if applicable): the Geometric Mean and the Single Sample Standard. The points for each component are listed in Table 8-5. In order for the points in each component to become available certain criteria must be met. Oregon and Washington Summer Beach Report Card methodology calculations only include Geometric Mean scores when four or more dry weather samples are available in determining a location's 30-day geometric mean. Therefore, it is possible for 'Total Points Available' to be less than 100. The grading methodology allows for a relative grade to be determined based on the actual monitoring completed.

Once the 'Total Available Points' has been determined for a specific location, then the 'Total Points Lost' is calculated for the applicable grade components.

Total Points Lost

Separate calculations are used to quantify 'Total Points Lost' for each applicable component from the 'Total Available Points'. The following describes the two calculations:

Geometric Mean

Calculating the 'Total Points Lost' for the Geometric Mean component involves using EPA's beach bathing indicator density of 35 for the geometric mean. If there are four or more samples included in the 30-day geometric mean calculation then the 50 points for the Geometric Mean component become available. Oregon and Washington Beach Report Card methodology calculates the percentage of geometric mean exceedance days based on the number of valid (four or more) geometric means scored during the extended time period. The percentage of geometric exceedance sample days out of valid geometric mean sample days is multiplied by the 50 available points to determine the 'Total Points Lost' for the Geometric Mean component.

Single Sample Standard

The Single Sample Standard component uses a gradient to calculate the 'Total Points Lost'. The gradient of percentage of points lost used in calculating the number of points lost is derived from the EPA's Ambient Water Quality Criteria for Bacteria and is found in Table 4-6.

'Percentage of points lost' is allocated depending upon the threshold exceeded. The penalties for threshold exceedances are presented in Table 4-7. Non-exceedances lose zero points. The 'percentage of points lost' for each sample during the time period are added together and divided by the total number of samples and multiplied by the 'Total Available Points'. More points are lost as the magnitude or frequency of exceedances increases.

Points lost from the Single Sample Standard component are added to the points lost in the Geometric Mean component (if applicable) and this sum becomes 'Total Points Lost'. Once the 'Total Points Available' and the 'Total Points Lost' are calculated a grade for a particular sample site can be determined.

Determining a Grade

$$\% \text{ Grade} = \frac{\text{'TOTAL POINTS AVAILABLE'} - \text{'TOTAL POINTS LOST'}}{\text{'TOTAL POINTS AVAILABLE'}}$$

Most dry and wet weather annual grades are calculated with 100 'Total Available Points', although there is no Geometric Mean component for wet weather grading. Wet weather grades are calculated by the total 'percentage of points lost' divided by the total number of samples and then multiplied by 100. This gives the location's score for wet weather 'Total Points Lost'. This number is then subtracted from 100 to give the percentage grade.



2011-2012 Beach Report Card

Honor Roll for California



California's year-round monitored beaches with excellent water quality all year.

San Diego County

OCEANSIDE

Projection of Tyson Street
Projection of Cassidy Street
St. Malo Beach (downcoast from St. Malo Road)

CARLSBAD

Projection of Cerezo Drive
Projection of Palomar Airport Road
Projection of Ponto Drive
Projection of Poinsettia Lane

ENCINITAS - SAN ELIJO STATE PARK

Pipes surf break
North end of State Park stairs
Projection of Liverpool Drive

CARDIFF STATE BEACH

San Elijo Lagoon outlet
Las Olas, 100 yds. south of Charthouse
Seaside State Park

DEL MAR

San Dieguito River Beach

OCEAN BEACH

Stub Jetty
Pier, north side @ Newport Avenue
Pier, Projection of Narragansett Avenue
Projection of Bermuda Avenue

SUNSET CLIFFS

Projection of Ladera Street

POINT LOMA

Lighthouse

CORONADO

Projection of Ave del Sol
Silver Strand

Orange County

SEAL BEACH

Projection of 14th Street

SURFSIDE BEACH

Projection of Sea Way

SUNSET BEACH

Projection of Broadway

NEWPORT BEACH

Projection of 52nd/53rd Street
Balboa Beach, The Wedge
Newport Bay, Onyx Avenue Beach
Newport Bay, N Street Beach
Newport Bay, Rocky Point Beach

MUDDY CREEK

VICTORIA BEACH

BLUE LAGOON

TREASURE ISLAND PIER (AWMA)

TREASURE ISLAND SIGN

ALISO CREEK- 1000' NORTH

TABLE ROCK

LAGUNA LIDO APT.

9TH ST. 1000 STEPS BEACH

Los Angeles County

MALIBU

Encinal Canyon @ El Matador State Beach
Las Flores State Beach @ Las Flores Creek

EL SEGUNDO

North Westchester Storm Drain
@ Dockweiler State Beach

PALOS VERDES PENINSULA

Bluff Cove, Palos Verdes Estates
Long Point, Rancho Palos Verdes
Abalone Cove Shoreline Park

Ventura County

RINCON BEACH

25 yds. south of the creek mouth

OIL PIERS BEACH

South of drain, bottom of wood staircase

FARIA COUNTY PARK

South of drain @ north end of park

SOLIMAR BEACH

South, end of east gate access road

EMMA WOOD STATE BEACH

50 yards south of first drain

SURFERS POINT @ SEASIDE

End of access path via wooden gate

SILVERSTRAND

Santa Paula Drive, south of drain

San Luis Obispo County

CAYUCOS STATE BEACH

Half way between Cayucos Creek and Pier
Downcoast of the pier
Studio Drive parking lot near Old Creek

MORRO STRAND STATE BEACH

Projection of Beachcomber Dr.
Hazard Canyon, Montana De Oro State Park

PISMO STATE BEACH

330 yards north of Pier Avenue
571 yards south of Pier Avenue, end of Strand Way

San Mateo County

SHARP PARK BEACH

Projection of San Jose Av.

ROCKAWAY BEACH

at Calera Creek

MONTARA STATE BEACH

at Martini Creek

DUNES BEACH

San Francisco County

BAKER BEACH WEST

Ocean #16

OCEAN BEACH

Projection of Lincoln Way 

2011-2012 Beach Report Card

Grades by County **for California**



San Diego County

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
OCEANSIDE	San Luis Rey River outlet	B	D	F
	projection of Tyson Street	A+	A+	A
	projection of Forster Street	A+	A+	B
	500' north of Loma Alta Creek outlet	A+	A+	C
	Buccaneer Beach at Loma Alta Creek		A+	
	projection of Cassidy Street	A+	A+	A
	St. Malo Beach, downcoast from St. Malo Road	A+	A+	A
CARLSBAD	projection of Tamarack Avenue	A+		
	warm water jetty	A+		
	projection of Cerezo Drive	A+	A+	A+
	projection of Palomar Airport Road	A+	A+	A+
	Encina Creek outlet	A	A+	A+
	projection of Ponto Drive	A+	A+	A+
	projection of Poinsettia Lane	A+	A+	A+
ENCINITAS	Batiquitos Lagoon outlet	A+		A+
	Moonlight Beach (Cottonwood Creek outlet)	A	A+	A+
	Swami's Beach (Seacliff Park)	A+		
	San Elijo State Park, Pipes surf break	A+	A+	A+
	San Elijo State Park, north end of State Park stairs	A+	A+	A+
CARDIFF STATE BEACH	San Elijo State Park, projection Liverpool Drive	A+	A+	A+
	San Elijo Lagoon outlet	A+	A+	A+
	Charthouse parking, slightly south of Kilkeny	A	A+	B
	Las Olas, 100 yds. south of Chighthouse	A+	A+	A
SOLANA BEACH	Seaside State Park	A+	A+	A+
	Tide Beach Park, projection Solana Vista Drive	A	A+	A+
	Fletcher Cove, projection Lomas Santa Fe Drive	A	A+	A+
DEL MAR	Seascape Surf Beach Park	A		
	San Dieguito River Beach	A+	A	A+
TORREY PINES	projection of 15th Street	A		A+
	Los Penasquitos Lagoon outlet	A	A+	B
LA JOLLA	projection of Ave De La Playa	A+		D
WINDANSEA BEACH	projection of Playa Del Norte	A+		
PACIFIC BEACH	Tourmaline Surf Park , projection of Tourmaline Street	A+		
MISSION BEACH	Belmont Park	A+	A+	B
MISSION BAY	Bonita Cove, east cove	A		

SAN DIEGO COUNTY

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
MISSION BAY - CONT'D	Bahia Point, northside, apex of Gleason Road	A		
	Fanuel Park, projection of Fanuel Street	A+		
	Crown Point Shores	A+		
	Wildlife Refuge near fence, projection of Lamont Street	A		
	Campland, west of Rose Creek	A+		
	DeAnza Cove, mid-cove	A		
	Visitor's Center, projection of Clairemont Drive	A		
	Comfort Station, north of Leisure Lagoon	A		
	Leisure Lagoon, swim area	A		
	Tecolote Playground, watercraft area	A+		
	Tecolote Shores, swim area	A+		
	Mission Bay, Vacation Isle Ski Beach	A		
	Mission Bay, Vacation Isle North Cove Beach	A+		
OCEAN BEACH	San Diego River outlet (Dog Beach)	A		
	Stub Jetty	A+	A+	A+
	Ocean Beach Pier, northside at Newport Avenue	A+	A+	A+
	Ocean Pier, projection of Narragansett Avenue	A+	A+	A+
	projection of Bermuda Avenue	A+	A	A
SUNSET CLIFFS	projection of Ladera Street	A+	A+	A+
POINT LOMA	Treatment Plant	A	A+	A+
	Lighthouse	A+	A+	A+
SAN DIEGO BAY	Shelter Island (Shoreline Beach Park)	A		
	Spanish Landing Park beach	A		
	Bayside Park, projection of J Street	A		
	Glorietta Bay Park at boat launch	A+		
	Tidelands Park, projection of Mullinix Drive	A		
CORONADO	projection of Ave del Sol	A+	A+	A+
	Silver Strand	A+	A+	A
IMPERIAL BEACH	projection of Carnation Avenue	B	A+	F
	Imperial Beach Pier	C	A	F
	south end of Seacoast Drive	B	A+	F
TIJUANA SLOUGH	NWRS, 3/4 mile north of Tijuana River	A+	A+	F
	NWRS, Tijuana Rivermouth	C	F	F
BORDER FIELD	projection of Monument Road	A	C	F
STATE PARK	Border Fence, north side	A	A	F



Orange County

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
SEAL BEACH	projection of 1st Street	A	B	F
	projection of 8th Street	A	B	B
	Seal Beach Pier, 100 yards south of pier	A	A	B
	projection of 14th Street	A+	A+	A+
SURFSIDE BEACH	projection of Sea Way	A+	A+	A+
	projection of Broadway	A+	A	A+
BOLSA CHICA	beach across from the Reserve Flood Gates	A	A+	A
	reserve at the downcoast end of the State Beach	A	A	A
HUNTINGTON CITY BEACH	bluffs	A	A	A
	projection of 17th Street	A	A	A
	Jack's Snack Bar	A	A	B
	projection of Beach Boulevard	A	A	A
HUNTINGTON STATE BEACH	projection of Newland Street, SCE Plant	A	A	A
	projection of Magnolia Street	A	A	A
	projection of Brookhurst Street	A	A	A
	Santa Ana River Mouth	A	A	B
NEWPORT BEACH	projection of Orange Street	A	A	B
	projection of 52nd/53rd Street	A+	A	A
	projection of 38th Street	A	A+	A
BALBOA BEACH	projection of 15th/16th Street	A	A	A
	Balboa Beach Pier	A	A	A
	The Wedge	A+	A	A
HUNTINGTON HARBOR	Mother's Beach (Orange County)	A		
	Trinidad Lane Beach	A+		
	Sea Gate	A+		
	Humboldt Beach	A		
	Davenport Beach	A+		
	Coral Cay Beach	A		
	11th Street Beach	A+		
NEWPORT BAY	Newport Dunes, north	A	A+	F
	Newport Dunes, east	A	C	F
	Newport Dunes, middle	A	B	F
	Newport Dunes, west	A	A	F
	Bayshore Beach	A+	A+	F
	Via Genoa Beach	A+	A+	C
	Lido Yacht Club Beach	A	A	C
	Garnet Avenue Beach	A	A	C
	Sapphire Avenue Beach	A	A+	B
	Abalone Avenue Beach	B	A+	B
	Park Avenue Beach	A	A+	A
	Onyx Avenue Beach	A+	A+	A
	Ruby Avenue Beach	A+	A	B
	Grand Canal	A	A+	B

		County "Beach Bummer" names appear in bold .		
ORANGE COUNTY		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
NEWPORT BAY - CONT'D	43rd Street Beach	A	A	F
	38th Street Beach	A	A+	D
	19th Street Beach	A	A+	A
	15th Street Beach	A	A+	A
	10th Street Beach	A	A+	C
	Alvarado/Bay Isle Beach	A	A+	B
	N Street Beach	A+	A+	A
	Harbor Patrol Beach	A	A	B
	Rocky Point Beach	A+	A+	A
CORONA DEL MAR	Corona Del Mar	A	A	A
	Little Corona Beach	A	A	A+
PELICAN POINT	Pelican Point	A	A+	A+
CRYSTAL COVE STATE PARK	Crystal Cove	A	A+	A
	Crystal Cove, weekly	A+		A+
	Muddy Creek	A+	A+	A+
LAGUNA BEACH	Emerald Bay	A+		A+
	Crescent Bay Beach	A+		A+
	Laguna Main Beach	A	D	A+
	Laguna Hotel	A	A+	A
	Projection of Bluebird Canyon	A	A	A
	Victoria Beach	A+	A	A+
	Blue Lagoon	A+	A+	A
	Treasure Island Pier, AWMA	A+	A+	A+
	Treasure Island Sign	A+	A+	A+
	Aliso Creek, 1000' north	A+	A+	A+
	Aliso Creek, outlet	A	A	F
	Aliso Creek, 1000' south	A	A	B
	Camel Point	A	A+	A+
	Table Rock	A+	A	A+
	Laguna Lido Apt.	A+	A+	A+
	9th Street, 1000 Steps Beach	A+	A+	A+
	Three Arch Bay	A	A+	A+
DANA POINT	Monarch Beach, north	A		A+
	Salt Creek Beach	A	A	B
	Dana Strand Beach, AWMA	A	A+	A+
	Ocean Institute Beach, SERRA	A	A+	A
	North Beach - Doheny	B	F	F
	Doheny State Beach, north of San Juan Creek	C	F	F
	San Juan Creek/Ocean Interface	F	F	F
	1000' south of SERRA Outfall	D	F	F
	2000' south of SERRA Outfall	F	F	F
	3000' south of SERRA Outfall	C	F	F

ORANGE COUNTY

		County "Beach Bummer" names appear in bold .		
			Winter Dry (Nov-Mar)	
DANA POINT - CONT'D	4000' south of SERRA Outfall	A	F	F
	5000' south of SERRA Outfall	A	C	C
	7500' south of Outfall, proj. of Camino Estrella	A	B	D
	10,000' so. of SERRA Outfall, #5505 Beach Road	A	B	C
SAN CLEMENTE	14,000' so. of SERRA Outfall, San Clemente Poche Beach	F	F	F
	20,000' so. of SERRA Outfall, San Clemente, proj. of Ave Pico	A	A	C
	Lifeguard Building, north of San Clemente Pier	A	A+	B
	Trafalgar Street Beach	A	A+	
	Avenida Calafia	A	A	C
	Las Palmeras	A+	A+	B
DANA POINT HARBOR	Baby Beach, west end	B		D
	Baby Beach, buoy line	B		C
	Baby Beach, swim area	B		A+
	Baby Beach, east end	A		
	Guest Dock, end, west basin	A+		
	Youth Dock	A+		



Los Angeles County

MALIBU

Leo Carrillo Beach at Arroyo Sequit Creek mouth	B	B	F
Nicholas Beach at San Nicholas Canyon Creek mouth	A	A	B
Encinal Canyon at El Matador State Beach	A+	A+	A+
Broad Beach at Trancas Creek mouth	B	A	A
Zuma Beach at Zuma Creek mouth	C	C	A
Walnut Creek	A	A+	A+
Little Dume at Zumirez Drive	D	A	F
Paradise Cove Pier at Ramirez Canyon Creek mouth	B	D	D
Escondido Creek, just east of Escondido State Beach	F	C	F
Latigo Canyon Creek mouth	C	B	D
Solstice Canyon at Dan Blocker County Beach	F	F	D
Puerco State Beach at 24822 Malibu Rd.	A	A	C
Puerco State Beach at creek mouth	B	A	B
Puerco State Beach at Marie Canyon storm drain	F	A	D
Malibu Point	A	B	A+
Surfrider Beach, breach point (daily)	F	F	F
Malibu Pier, 50 yards east	F	A	F
Carbon Beach at Sweetwater Canyon	B	A	C
Las Flores State Beach at Las Flores Creek	A+	A+	A
Big Rock Beach at 19948 PCH stairs	A	B	B
Pena Creek at Las Tunas County Beach	A	A+	A+

		County "Beach Bummer" names appear in bold .		
LOS ANGELES COUNTY		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
MALIBU - CONT'D	Topanga State Beach at creek mouth	F	C	F
	Castlerock storm drain at Castle Rock Beach	A	A	F
WILL ROGERS STATE BEACH	17200 Pacific Coast Hwy, 1/4 mile east of Sunset drain	A	A+	C
	16801 Pacific Coast Hwy	A	A	F
	Pulga Canyon storm drain	A	A	B
	Temescal Canyon drain	A	A	F
	Santa Monica Canyon drain	B	A	F
SANTA MONICA	at Montana Avenue drain	A+	A+	F
	at Wilshire Boulevard drain	B	A	F
	Santa Monica Municipal Pier	A	D	F
	at Pico/Kenter storm drain	A	D	F
	at Strand Street, in front of the restrooms	A	A+	C
	Ocean Park Beach at Ashland Avenue drain	A	A	D
VENICE CITY BEACH	at the Rose Avenue storm drain	A	A	F
	at Brooks Avenue drain	A	A+	D
	at Windward Avenue drain	A	A	A
VENICE CITY BEACH	Fishing Pier, 50 yards south	A	A+	A
	at Topsail Street	A	A+	D
MARINA DEL REY	Mothers' Beach, playground area	A	D	F
	Mothers' Beach, lifeguard tower	A	B	F
	Mothers' Beach, between tower and boat dock	A	B	F
DOCKWEILER STATE BEACH	at Ballona Creek mouth	B	B	F
	at Culver Boulevard drain	A	A	A
	North Westchester storm drain	A+	A+	A
	at World Way, south of D&W jetty	A+	A	B
	at Imperial Highway drain	A	A	F
	Hyperion Treatment Plant, One Mile Outfall	A	A	D
	at Grand Avenue drain	A	A	F
MANHATTAN BEACH	Manhattan State Beach at 40th Street	A	A	C
	at 28th Street drain	A	B	F
	Manhattan Beach Pier drain	A	A	B
HERMOSA BEACH	at 26th Street	A	A	B
	Hermosa Beach Pier, 50 yards south	A	A	B
	Herondo Street storm drain, in front of drain	A	B	F
REDONDO BEACH	Redondo Municipal Pier, south side	B	C	C
	Redondo Municipal Pier, 100 yards south	B	A	F
	at Sapphire Street	A	A+	F
	at Topaz Street, north of jetty	A	A	B
TORRANCE BEACH	Torrance Beach at Avenue I drain	A	A	C

		County "Beach Bummer" names appear in bold .		
LOS ANGELES COUNTY		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
PALOS VERDES PENINSULA	Malaga Cove, Palos Verdes Estates (daily)	A	A	A
	Malaga Cove, Palos Verdes Estates (weekly)	A	A+	A+
	Bluff Cove, Palos Verdes Estates	A+	A+	A+
	Long Point, Rancho Palos Verdes	A+	A+	A
	Abalone Cove Shoreline Park	A+	A+	A+
	Portuguese Bend Cove, Rancho Palos Verdes	A	A+	A+
SAN PEDRO	Royal Palms State Beach	A	B	A
	Wilder Annex, San Pedro	A	A+	A
CABRILLO BEACH	oceanside	A	A+	A+
	harborside at restrooms	F	F	F
	harborside at boat launch	A	C	F
AVALON BEACH	between BB restaurant and Tuna Club	F		
	between Pier and BB restaurant, 2/3	F		
	between Pier and BB restaurant, 1/3	F		
	between storm drain and Pier, 2/3	F		
	between storm drain and Pier, 1/3	D		
LONG BEACH CITY BEACH	projection of 5th Place	B	C	F
	projection of 10th Place	B	F	F
	projection of Molino Avenue	B	F	F
	projection of Coronado Avenue	B	B	F
	Belmont Pier, westside	B	A	F
	projection of Prospect Avenue	B	C	F
	projection of Granada Avenue	A	A	F
	projection of 55th Place	A	A	F
	projection of 72nd Place	B	A	F
ALAMITOS BAY	2nd Street Bridge and Bayshore	C	B	F
	shore float	A	A	F
	Mother's Beach, Long Beach, north end	B	A	F
	56th Place, on bayside	A	B	F
COLORADO LAGOON	north	B	A	F
	south	A	A	F



Ventura County

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
RINCON BEACH	25 yards south of creek mouth	A+	A+	A
	100 yards south of creek mouth	A		
MUSSEL SHOALS BEACH	south the drain	A+		
OIL PIERS BEACH	south of drain, bottom of wood staircase	A+	A+	A
HOBSON COUNTY PARK	base of stairs to the beach	A+		
FARIA COUNTY PARK	south of drain at north end of park	A+	A+	A
MANDOS COVE	south of drain	A+		
SOLIMAR BEACH	south, end of east gate access road	A+	A+	A
EMMA WOOD ST. BEACH	50 yards south of first drain	A+	A+	A
SURFER'S POINT	at Seaside, end of access path via wooden gate	A+	A+	A
PROMENADE PARK	Figueroa Street	A	A	B
	Redwood Apts.	A+		
	Holiday Inn, south of drain at California Street	A+		
SAN BUENAVENTURA BEACH	south of drain at Kalorama Street	A		
	south of drain at San Jon Road	A	A+	B
	south of drain at Dover Lane	A+		
	south of drain at Weymouth Lane	A+		
VENTURA HARBOR	Marina Park, beach at north end of playground	A+		
	Peninsula Beach, beach area north of South Jetty	A+		
	Surfer's Knoll, beach adjacent to parking lot	A+	A+	B
OXNARD BEACH	5th Street, south of drain	A+		
	Outrigger Way, south of drain	A+		
	Oxnard Beach Park, Falkirk Avenue, south of drain	A	A+	A
	Oxnard Beach Park, Starfish Drive, south of drain	A	A+	A
HOLLYWOOD BEACH	La Crescenta Street, south of drain	A+		
	Los Robles Street, south of drain	A	A+	A+
CHANNEL ISLANDS HARBOR	Hobie Beach Lakshore Drive	A	A+	D
	Beach Park at south end of Victoria Avenue	A	A	B
SILVERSTRAND	San Nicholas Avenue, south of jetty	A	A+	A
	Santa Paula Drive, south of drain	A+	A+	A
	Sawtelle Avenue, south of drain	A	A+	A+
PORT HUENEME BCH PARK	50 yards north of pier	A	A	A
ORMOND BEACH	J Street drain, 50 yards south of drain	A	A	C
	Oxnard Industrial drain, 50 yards north of drain	A	A+	A+
	Arnold Road	A+	A+	B
PT. MUGU BEACH	adjacent to parking lot entry	A+		
THORNHILL BROOME BCH	adjacent to parking lot entry	A		
SYCAMORE COVE BEACH	50 yards south of the creek mouth	A+		
COUNTY LINE BEACH	50 yards south of the creek mouth	A		
STAIRCASE BEACH	bottom of staircase	A+		



Santa Barbara County

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
JALAMA BEACH		B		D
GAVIOTA STATE BEACH		A		C
REFUGIO STATE BEACH		A	A	C
EL CAPITAN STATE BEACH		A	A	C
SANDS	Coal Oil Point	A	A+	A+
GOLETA BEACH		B	A	D
HOPE RANCH BEACH		A	A+	C
ARROYO BURRO BEACH		C	A	F
LEADBETTER BEACH		A	A+	A
EAST BEACH	Mission Creek	B	D	F
	Sycamore Creek	A	A	C
BUTTERFLY BEACH		B	A+	B
HAMMOND'S BEACH		A	A	B
SUMMERLAND BEACH		A	A+	B
CARPINTERIA STATE BEACH		B	A+	A
RINCON BEACH	creek mouth		A	



San Luis Obispo County

SAN SIMEON	at Pico Avenue	A	A+	A
CAYUCOS STATE BEACH	halfway between Cayucos Creek and the pier	A+	A	A+
	downcoast of the pier	A+	A+	A+
	Studio Drive parking lot, near Old Creek	A+	A+	A
MORRO STRAND ST. BCH.	projection of Beachcomber Drive	A+	A+	A+
MORRO BAY CITY BEACH	projection of Atascadero	A	A+	B
	Morro Creek, south side	A	A+	B
	75 feet north of main parking lot	A	A+	A
MONTANA DE ORO ST. PK.	Hazard Canyon	A+	A+	A+
OLDE PORT BEACH	Harford Beach, north	B	A	C
AVILA BEACH	projection of San Juan Street	A+	A+	F
	projection of San Luis Street	A	A+	B
PISMO BEACH	sewers at Silver Shoals Drive	A	A+	A+
	projection of Wadsworth Street	A	A	A+
	Pismo Beach Pier, 50 feet south of the pier	B	A	A+
	projection of Ocean View	A	A	A+
	330 yards north of Pier Avenue	A+	A+	A+
	projection of Pier Avenue	A	A+	A+
	571 yards south of Pier Avenue, end of Strand Way	A+	A+	A+



Monterey County

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
MONTEREY STATE BEACH	downcoast of Robert's Lake outlet	A		A+
MONTEREY PENINSULA	Monterey Municipal Beach, at the commercial wharf	B		A+
	San Carlos Beach at San Carlos Beach Park	A		A+
	Lover's Point Park, projection of 16th Street	B		A+
	Asilomar State Beach	A		A+
	Spanish Bay (Moss Beach) end of 17 mile drive	A		A+
	Stillwater Cove, at Beach and Tennis Club	D		D
CARMEL CITY BEACH	projection of Ocean Avenue, west end	A+		A+



Santa Cruz County

SANTA CRUZ	Natural Bridges State Beach	A	A+	A+
	Cowell Beach, at the Stairs	A	A+	A+
	Cowell Beach, Lifeguard Tower 1	F	A	C
	Cowell Beach, at wharf	F		
	Santa Cruz Main Beach at the Boardwalk	B	A+	B
	Santa Cruz Main Beach at the San Lorenzo River	B	C	B
	Seabright Beach	A	A+	A
	Twin Lakes Beach	A	A	B
	Capitola Beach	F	B	D
	Capitola Beach at jetty	A	A+	B
	New Brighton Beach	A	A	A
	Seacliff State Beach	A	A+	A+
	Rio Del Mar Beach	A	A	B



San Mateo County

PACIFICA	Sharp Park Beach, projection of San Jose Avenue	A+	A+	A+
	Sharp Park Beach, projection of Birch Lane	A+		A+
	Rockaway Beach at Calera Creek	A+	A	A+
	Linda Mar Beach at San Pedro Creek	A	A	A
MONTARA STATE BEACH	at Martini Creek	A+	A+	A+
MOSS BEACH	Fitzgerald Marine Reserve at San Vicente Creek	A	B	A
PILLAR POINT	#8 Mavericks Beach Westpoint Avenue	A	A	C
	Pillar Point Harbor, end of Westpoint Avenue # 7	D	A	F
HALF MOON BAY	Surfer's Beach, south end of riprap	A	A+	B
	Roosevelt Beach, south end of parking lot	A+	A+	B
	Dunes Beach	A+	A+	A
	Venice Beach	A	A+	B
	Francis Beach at the foot of the steps	A	A+	A+

		County "Beach Bummer" names appear in bold .		
SAN MATEO COUNTY		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
POMPONIO STATE BEACH	at Pomponio Creek	A		
PESCADERO STATE BEACH	at Pescadero Creek	A		
SOUTH COASTSIDE	Bean Hollow State Beach	A+		
	Gazos Beach at Gazos Creek	A		
BAYSIDE	Oyster Point	D	A	B
	Coyote Point	A	C	F
	Aquatic Park	F	F	F
	Lakeshore Park, behind Rec Center	F	F	F
	Kiteboard Beach		F	



Alameda County

ALAMEDA POINT	North	A		
	South	A		
CROWN BEACH	Bath House	A	A+	B
	Windsurfer Corner	A		A
	Sunset Road	A	A	A
	2001 Shoreline Drive	A	A	A
	Bird Sanctuary	B	C	C



San Francisco County

AQUATIC PARK BEACH	Hyde Street Pier, projection of Larkin Street	A	A+	A
	211 Station	B	B	A+
CRISSY FIELD BEACH	East, 202.4 Station	A	A	A
	West 202.5 station	A	A	A+
BAKER BEACH	East, Ocean #15 East	A	A+	A+
	Lobos Creek	B	A+	A
	West, Ocean #16	A+	A+	A+
CHINA BEACH	end of Sea Cliff Avenue	A+	A+	B
OCEAN BEACH	projection of Balboa Avenue	A	A+	A
	projection of Lincoln Way	A+	A+	A
	projection of Sloat Boulevard	A	A+	A+
CANDLESTICK POINT	Jackrabbit Beach	B	A	D
	Windsurfer Circle	B	D	F
	Sunnydale Cove	A	B	F



Contra Costa County

County "Beach Bummers" names appear in **bold**.

		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
KELLER BEACH	North Beach	B	A	C
	Mid Beach	B		
	South Beach	B	A	B



Marin County

TOMALES BAY	Dillon Beach	A		
	Lawson's Landing	A		
	Miller Park	A		
	Heart's Desire	A		
	Shell Beach	A		
	Millerton Point	A		
DRAKES BAY	Drake's Beach	A		
	Limantour Beach	A		
BOLINAS BAY	Bolinas Beach, Wharf Road	B		
	Stinson Beach, north	A+		
	Stinson Beach, central	A		
	Stinson Beach, south	A+		
MUIR BEACH	north	A		
	central	A+		
	south	A+		
RODEO BEACH	north	A+		
	central	A+		
	south	A+		
BAKER BEACH	Horseshoe Cove SW	A		
	Horseshoe Cove NW	A		
	Horseshoe Cove NE	B		
SCHOONMAKER BEACH		B		
CHINA CAMP		A		



Sonoma County

GUALALA REGIONAL PARK BEACH	A+		
BLACK POINT BEACH	A+		
STILLWATER COVE REGIONAL PARK BEACH	A		
GOAT ROCK STATE PARK BEACH	A		
SALMON CREEK STATE PARK BEACH	A+		A+
CAMPBELL COVE STATE PARK BEACH	A		A
DORAN REGIONAL PARK BEACH	A		



Mendocino County

		County "Beach Bummer" names appear in bold .		
		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
MACKERRICHER STATE PARK	at Virgin Creek	A+		
PUDDING CREEK OCEAN OUTLET		A+		
BIG RIVER NEAR PCH		A+		
VAN DAMME STATE PARK	at the Little River	A		



Humboldt County

TRINIDAD STATE BEACH	near Mill Creek	B		
LUFFENHOLTZ BEACH	near Luffenholtz Creek	C		
MOONSTONE COUNTY PARK	Little River State Beach	A		
CLAM BEACH COUNTY PARK	near Strawberry Creek	B		
MAD RIVER MOUTH	north	A+		



2011-2012 Beach Report Card

Grades by County for Washington



Whatcom County

		Summer Dry	Wet Weather			Summer Dry	Wet Weather
BIRCH BAY COUNTY PARK	North	A+	A+	SEMIAHMOO COUNTY PARK		A+	
	Mid	A	A+				
	South	B	A+				
MARINE PARK BELLINGHAM	Outer	A	A+	LITTLE SQUALICUM PARK	Left	B	
	Inner East	A	B		Mid	B	
	Inner West	A+	B		Right	A	
LARRABEE STATE PARK WILDCAT COVE	Mid	D	F	SEMIAHMOO COUNTY PARK	Left	A+	
	West	F	F		Mid	A+	
	South	A	A+		Right	A+	



Thurston County

BURFOOT COUNTY PARK	North	A+	A+	WEST BAY PARK	Left	A	
	Mid	A+	A+		Mid	A	
	South	A+	A+		Right	A	



Snohomish County

KAYAK POINT COUNTY PARK	North	A+		PICNIC POINT COUNTY PARK	North	A	
	Mid	A+			Mid	A+	
	South	A+			South	A	
HOWARTH PARK	North	A		EDMONDS UNDERWATER PARK	North	A+	A+
	Mid	B			Mid	A+	A+
	South	A			South	A	A+
MUKILTEO LIGHTHOUSE PARK	North	F		MARINA BEACH EDMONDS	North	A+	A+
	Mid	A			Mid	A+	A+
	South	A			South	A+	A+



Skagit County

BAYVIEW STATE PARK	North	B	F				
	South	B	A+				



Pierce County

		Summer Dry	Wet Weather			Summer Dry	Wet Weather
PURDY SANDSPIT COUNTY PARK	East	A+	A+	FOX ISLAND	Left	A+	
	Mid	A+	A+		Mid	A+	
	West	A	A+		Right	A	
	West of Pier	A	F	PENROSE POINT STATE PARK	East	A+	A+
	East of Pier	A+	D		Mid	A+	A+
	East	A+	A+		West	A+	A+
OWENS BEACH POINT DEFIANCE PARK	North	A+	A+	TITLOW PARK	North	A+	A+
	Mid	A	A+		Mid	A	A+
	South	B	A+		South	A+	A+
KOPACHUCK STATE PARK	North	A+	A+	CHAMBERS CREEK	1.5 mi. north of creek mouth	A+	A+
	Mid	A+	A+		1 mi. north of creek mouth	A+	A+
	South	A+	A+		0.3 mi. north of creek mouth	A+	A+
BROWNS POINT LIGHTHOUSE PARK	East	A+	A+	SUNNYSIDE BEACH PARK	North	A	A+
		A+	A+		Mid	A+	A+
	South	A+	A+		South	A+	A+
WATERFRONT DOCK RUSTON WAY	North	A+	A+				
	Mid	A+	A+				
	South	A	A+				



Mason County

BELFAIR STATE PARK	#1	A		POTLATCH STATE PARK	North	A+	A+
	#2	A			Mid	A+	A+
ALLYN WATERFRONT PARK	Left	A			South	A	A+
	Mid	A		WALKER COUNTY PARK	East	A+	A+
	Right	A+			Mid	C	A+
TWANOH STATE PARK	East of point	A	A+		West	A+	A+
	West of dock	C	F				
	West of point	F	A+				



Kitsap County

ARNESS COUNTY PARK	North	F	A+	SCENIC BEACH STATE PARK	East	A	A+
	Mid	F	A+		Mid	A	A+
	South	B	A+		West	A	C
INDIANOLA DOCK	West	C	A+	SILVERDALE COUNTY PARK	East	A	A+
	Mid	C	A+		Mid	B	A
	East	D	A+		West	B	C
FAY BAINBRIDGE STATE PARK	North	A	A+	EAGLE HARBOR WATERFRONT PARK	East	A+	A+
	Mid	A	A+		West	C	A+
	South	D	A+		Mid	A	A+

KITSAP COUNTY (CONT'D)		Summer Dry	Wet Weather			Summer Dry	Wet Weather
ILLAHEE STATE PARK	North	A+	A+	POINT NO POINT LIGHTHOUSE PARK	Left	A	
	Mid	A+	A+				
	South	A+	A+	SEABECK CONFERENCE CENTER BEACH		A+	
LIONS PARK	North	A	C	LYTLE ROAD END COMMUNITY PARK	Left	A	
	Mid	A	A+		Mid	A	
	South	B	A+		Right	A	
EVERGREEN PARK	North	A	D	MANCHESTER STATE PARK	Left	A	
	Mid	A	A+		Mid	A	
	South	A	A+		Right	A+	
POMEROY PARK	North	F	A+	POINT NO POINT LIGHTHOUSE PARK	Right	A	
MANCHESTER BEACH	Mid	D	A+		Mid	A+	
	South	C	A+				
SEABECK CONFERENCE CENTER BEACH	Left	A+					
	Mid	A+					
	Right	A+					



King County

RICHMOND BEACH SALTWATER PARK	North	A+	D	LINCOLN PARK	North	A+	A+
	Mid	A+	A+		Mid	A+	A+
	South	A+	A+		South	A	A+
CARKEEK PARK	North	A+	A+	SEAHURST COUNTY PARK	North	A+	A+
	Mid	A	A+		Mid	A+	A+
	South	B	A+		South	A+	A+
GOLDEN GARDENS	North	A+	A+	SALTWATER STATE PARK	North	A	A+
	Mid	A	A+		Mid	A	A+
	South	A	A+		South	A+	A+
SEACREST PARK	North	A+	A+	REDONDO COUNTY PARK	North	A+	A+
	Mid	A+	D		Mid	A+	A+
	South	A+	A+		South	A+	A+
ALKI BEACH PARK	North	A+	A+	DASH POINT STATE PARK	East	A+	A+
	Mid	A+	A+		West	A+	A+
	South	A+	A+		Mid	A+	A+
RICHEY VIEWPOINT	North	A+	A+				
	Mid	A+	A+				
	South	A	A+				



Jefferson County

		Summer Dry	Wet Weather			Summer Dry	Wet Weather
FORT WORDEN STATE PARK	North	A		POINT WHITNEY TIDELANDS	West	A+	
	Mid	A+			Mid	A	
	South	A+			East	A+	
MYSTERY BAY STATE PARK	West end of dock	A		CAMP PARSONS BOY SCOUT BRINNON CAMP	Mid	A	
	Mid dock	A+			East	A+	
	East end of dock	A+			West	A	
HERB BECK MARINA	East	A		FORT FLAGLER STATE PARK	Left	A	
	Mid	A			Mid	A+	
	West	A			Right	A+	



Island County

OAK HARBOR LAGOON	Mid	C		FREELAND COUNTY PARK	West	B	
	North West	A					
	South East	A		HOLMES HARBOR	Mid	A	
OAK HARBOR CITY BEACH PARK	East	F			East	D	
	Mid	D					
	West	F					



Grays Harbor

WESTPORT - THE GROYNES	East	A	A+	WESTHAVEN STATE PARK - SOUTH JETTY	North	A+	A+
	Mid	A+	A+		Mid	A+	A+
	West	A+	A+		South	A+	A+
WESTHAVEN STATE PARK - HALF MOON BAY	North	A+	A+				
	Mid	A	A+				
	South	A	A+				


Clallam County

		Summer Dry	Winter Dry	Wet Weather
THIRD BEACH NEAH BAY	East			A+
	Mid			A+
	West			A+
DAKWAS PARK BEACH NEAH BAY	West	B	A+	A
	Mid	A+	A	A
	East	A	A	A
FRONT STREET BEACH EAST	Kal Chate St.	A+	A+	B
	Pine Street	A	A+	A+
	Mid	A+	A	A
HOBUCK BEACH	North	A	A+	A+
	Mid South	A+	A+	A+
	South	A+	A+	A+
SOOES BEACH	North	A+	A+	A+
	Mid	A+	A+	A+
	South	A+	A+	A+
SALT CREEK RECREATION AREA	North	A+		
	Mid	A+		
	South	A+		
CLINE SPIT COUNTY PARK	North	B		
	Mid	A		
	South	A+		
SAIL & PADDLE PARK	East	A+		
	Mid	A+		
	West	A+		
HOLLYWOOD BEACH	West	A+		
	Mid	A+		
	East	A		
PORT WILLIAMS BOAT LAUNCH	North	A		
	Mid	A		
	South	A		



2011-2012 Beach Report Card

Grades by County for Oregon



Clatsop County

		Summer Dry	Wet Weather
SEASIDE BEACH	at 12th Avenue	A+	A+
	at Broadway turn around	A	A+
	at U Avenue	A+	A+
INDIAN BEACH	at the mouth of Indian Creek	A	A+
	at the mouth of Canyon Creek	A+	A+
CANNON BEACH	at Ecola Creek mouth (2nd Avenue)	A+	C
	near Ecola Court Storm Outfall	A+	B
TOLOVANA STATE PARK BEACH	50m north of Chisana Creek	A+	A+
	#2	A	A
	50m south of Chisana Creek	A+	A+
HUG POINT	Middle of Cove at Creek and Beach Access	A+	A+
	South end of cove	A+	A+



Tillamook County

SHORT SAND BEACH	North End (Oswald State Park)	A+	A+
	middle (Oswald State Park)	A+	A
	at Short Sand creek (Oswald State Park)	A	A+
KIWANDA BEACH	at Dory Launch	A	A+
	at Mid Mound	A+	A+
	at South Site	A+	A+



Lincoln County

D RIVER BEACH	at North corner of parking lot	A	A+
	West of Restroom	A+	A+
	200 M South of Restroom	A	A+
OTTER ROCK BEACH	0.2 km South of stairs	A+	A+
	against the head	A+	A+
AGATE BEACH	at mouth of Big Creek	A+	A+
NYE BEACH	100m north Nye Creek outflow west of NW 6th street	A+	A+
	Turnaround west of discharge pipe	A+	B
	at war memorial west of Olive Street	A+	A+





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Glossary

BMP	best management practices
BRC	Beach Report Card
CBP	Clean Beach Project (Poche)
CBI	Clean Beach Initiative
CDO	Cease and Desist Order
CIRS	Coastal Interceptor Relief Sewer
CSS	combined sewer and storm drain system
CSD	combined sewer discharges
CSO	combined sewer overflows
CWA	Clean Water Act
DEIR	Draft Environmental Impact Report
DEH	Division of Environmental Health
Draft Criteria	EPA's Draft Recreational Water Quality Criteria (2012)
E. coli	Escherichia coli
EMD	Environmental Monitoring Division (L.A.)
EPA	Environmental Protection Agency
EPA BEACH	National Beach Guidance and Performance Criteria for Recreational Waters
FIB	fecal indicator bacteria
GI illness	Gastrointestinal Illness
IBWC	International Boundary and Water Commission
IWTP	International Wastewater Treatment Plant (EPA)
LED	light emitting diode
LFD	Low Flow Diversion
LID	Low Impact Development Ordinance
MS4	Municipal Separate Storm Sewer System
MS4P	MS4 Permit
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
LARWQCB	Los Angeles Regional Water Quality Control Board "Regional Board"
NGO	Non-Government Agency
NRDC	Natural Resources Defense Council
NSE	Natural Source Exclusion
OWTS	on-site water treatment systems
PCB	polychlorinated biphenyl
point zero	location where outfall meets the ocean
QMRA	Quantitative Microbial Risk Assessment
Regional Board	Regional Water Quality Control Board
SBCK	Santa Barbara Channelkeeper
SERRA	South East Regional Reclamation Authority
SEP	Supplemental Environmental Projects (L.A.)
SIPP	Source Identification Protocol Project
SCCWRP	Southern California Coastal Water Resources Project
SMURRF	Santa Monica Urban Runoff Recycling Facility
SPF	Sun Protection Factor
SWRCB	State Water Resources Control Board or "State Board"

SSO	Sanitary Sewer Overflows
TMDL	Total Maximum Daily Load
UCLA	University of California Los Angeles
UCSB	University of California Santa Barbara
USEPA	United States Environmental Protection Agency
wave wash	monitored location where runoff meets surf
WWTP	Waste Water Treatment Plant

Significant Bills and Acts

ARRA - Federal (2009)

AMERICAN RECOVERY AND REINVESTMENT ACT. Stimulus package, from which \$18 billion is allocated for relief and investment in environment, public health and 'green' alternatives.

AB 411 - California (1997)

BEACH BATHING WATER QUALITY STANDARDS. Requires all waters along California's coast to meet certain minimum standards. Coastal waters will be tested weekly during the period of April through October.

AB 538 - California (1999)

Requires the state board to develop source investigation protocols for use in conducting source investigations of storm drains that produce exceedances of specified bacteriological standards.

BEACH Act - Federal (2000)

BEACHES ENVIRONMENTAL ASSESSMENT AND COASTAL HEALTH ACT. Amends the CWA and authorizes the EPA to award grants to reduce the risk of illness to users of the nation's recreational waters.

CBI - California (2001)

CALIFORNIA'S CLEAN BEACH INITIATIVE. Grant program provides funding for projects that will improve California's coastal water quality and swimmers' safety. Funding priority is given to projects that reduce bacterial contamination on busy California beaches.

CWA - Federal (1972)

CLEAN WATER ACT. Establishes the basic structure for regulating discharges of pollutants into the waters of the United States.

Prop O - Los Angeles (2004)

Authorized the City of Los Angeles to issue a series of general obligation bonds for up to \$500 million for projects to protect public health by cleaning up pollution, including bacteria and trash, in the city's watercourses, beaches and the ocean, in order to meet Federal CWA requirements.

Prop 50 - California (2002)

WATER SECURITY, CLEAN DRINKING WATER, COASTAL AND BEACH PROTECTION ACT. Authorizes the issuance of bonds to fund a variety of water quality improvement projects.

SB 482 - California (2011)

PUBLIC BEACH CONTAMINATION: STANDARDS: TESTING: CLOSING. Allows the State Board to direct permit fees up to \$1.8 million towards California's Beach Program and requires the drafting of regulations relating to testing of waters adjacent to public beaches.



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Sonoma County Environmental Health Division	County of Los Angeles Department of Public Health Environmental Health
Marin County Environmental Health Services	City of Redondo Beach
San Francisco Public Utilities Commission	City of Long Beach Department of Health and Human Services Environmental Health Division
East Bay Regional Park District	South Orange County Wastewater Authority
San Mateo County Environmental Health Division	County of Orange Environmental Health
San Mateo County Resource Conservation District	Orange County Sanitation District
Santa Cruz County Environmental Health Services	San Diego County Department of Environmental Health Land and Water Quality Division
Monterey County Environmental Health Division	Southern California Coastal Water Research Project
San Luis Obispo County Environmental Health Services	State Water Resources Control Board
Santa Barbara County Environmental Health Services	
Santa Barbara ChannelKeeper	
Ventura County Environmental Health Division	

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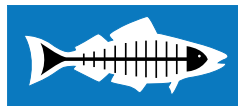
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