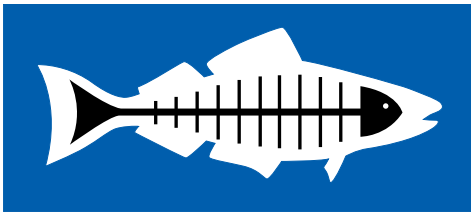
Heal the Bay's

2012-2013 Annual Beach Report Card



Heal the Bay

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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We at Heal the Bay believe the public has the right to know the water quality at their favorite beaches. We are 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.

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Executive Summary

Beach water quality monitoring is vital to ensuring the health protection of the millions who recreate in coastal waters. Heal the Bay's Beach Report Card was first published in 1991 for Los Angeles County and has grown to include analysis of beach water quality for the entire west coast of the United States. Beachgoers throughout Washington, Oregon, and California can now find easy to understand water quality grades for their local beaches updated each week at *beachreportcard.org*

This 2012-2013 Annual Beach Report Card is a summary of the past year's water quality at more than 600 beach monitoring locations along the West Coast. The A-to-F grades assigned to each location represent the risk of adverse health effects to beachgoers. The better the grade a beach receives, the lower the risk of contracting an illness from water recreation at that location.

This report includes an analysis of water quality for three distinct time periods: summer dry weather (the months covered under Assembly Bill 411 [AB 411] in California (April – October), winter dry weather (November 2012 – March 2013) 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 and to prioritize remediation of poor water quality locations, ultimately making them safer for beach users.

West Coast Beach Water Quality Overview

The Pacific Northwest saw excellent water quality this past summer. Washington locations were typically clean with 95% of the 174 monitoring locations receiving A or B grades. All 11 of Oregon's regularly (at least weekly) monitored locations received A grades for the summer dry period.

Oregon and Washington monitor beach water quality at most locations from Memorial Day through Labor Day only. Fifteen monitoring locations in Washington were monitored consistently enough throughout this past winter to earn grades for all three time periods in this report.

Beaches in California had very good water quality overall this past year, with 413 of 445 (93%) of locations receiving good to excellent (A or B) grades during the summer dry weather period. Statewide wet weather water quality was near an all-time high this year (after one of the driest winters on record in Southern California) with 69% A or B grades, besting the five-year average by 14%.

Southern California (Santa Barbara through San Diego) summer dry weather grades (93% 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% (43 of 44) of ocean-side locations receiving an A or B grade. Bay-side locations' water quality was very similar to last year with 89% of monitoring locations (24 of 27) receiving A or B grades.

There were 5% more A and B grades during wet weather in California this past year (69% of the 338 locations received A and B grades for wet weather samples in this report). Statewide wet weather A and B grades were up 14% over the previous five-year average. In Southern California, 74% of sampling locations earned A or B grades during wet weather (up 16% from last year and up 24% over the previous five-year average).

A list of all grades can be found in Appendix C.

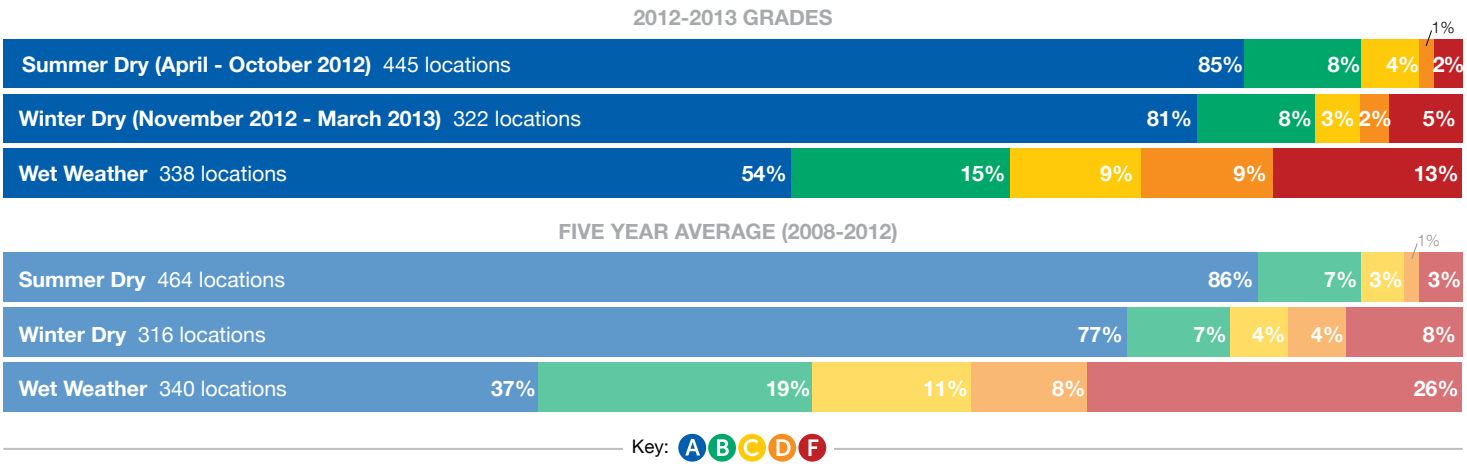
California Overview

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 only 32 monitoring locations (7%) that received fair to poor water quality marks (C-F grades) during summer dry weather

During winter dry weather, most California beaches also had very good water quality with 289 of 322 (90%) locations receiving A or B grades. Lower grades during the same time period include: 9 Cs (3%), 8 Ds (2%) and 16 Fs (5%). Southern California dry weather grades (93% A and B grades) were on par with the statewide average. Los Angeles County improved slightly (up 2%) from last year with 84% A or B grades, though still notably below the statewide average of 93% A or B grades for summer dry weather.

In the San Francisco Bay Area, summer dry weather grades were excellent on the oceanside with 98% (43 of 44) of the locations receiving A or B grades, and very good on the bayside with 24 of 27 (89%) receiving A or B grades. Not all Bay Area beaches are monitored year round but winter dry weather water quality at oceanside monitoring locations was excellent with all 20 monitoring locations receiving an A or B grade. The bayside did not fare as well during this time – down 10% from last year on the bayside with only 50% A or B grades.

FIGURE 1-1: OVERALL CALIFORNIA GRADES



HONOR ROLL
Carlsbad @ Batiquitos Lagoon outlet

HONOR ROLL
The Wedge, Newport Beach

HONOR ROLL
Cabrillo Beach (oceanside), San Pedro

During wet weather, 31% of California's monitoring locations received fair-to-poor grades (C, D or F) with 13% 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.

Southern California Overview

Rainfall totals were well below average throughout Southern California again this past winter. These abnormally dry conditions result in less runoff to receiving waters. Figures 1-2 and 1-3 show the correlation between below-average rainfall and improved water quality at Southern California beaches this past year during both the winter dry and wet weather time periods.

California Honor Roll Beaches

In general, open ocean beaches with no known pollution source 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 regardless of beach type. A select few (35) monitoring locations in California exhibited excellent water quality during all three time periods in this report and have been appointed to California's Honor Roll this year.

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

The type of beach often impacts its grade.

(See page 59 for more information on *Beach Types and Water Quality*)

California Beach Bummers

The monitoring locations with the poorest dry weather water quality in California populate our annual list of "Beach Bummers." (Figure 1-4). Four of the 10 Beach Bummers this past year were in Los Angeles County.

This is **Avalon**'s 12th appearance on the bummer list since 1999 and its fifth year in the infamous No. 1 position as California's most polluted beach. However, with more than 60% of Avalon's corroded sewer lines replaced over the last year and a number of other water quality improvement projects in place, we anticipate much improved water quality in the coming years.

Cowell Beach remains in the No. 2 spot for the second year in a row, narrowly missing the top Beach Bummer position. Cowell's frequent bacteria standards exceedances are likely from a combination of pollution sources, including human fecal contamination, which was recently discovered at this location.

HONOR ROLL
Hermosa Beach @ 26th Street

HONOR ROLL
Leo Carillo State Beach, Malibu

HONOR ROLL
Montara State Beach, San Mateo County

FIGURE 1-2: SOUTHERN CALIFORNIA GRADES

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

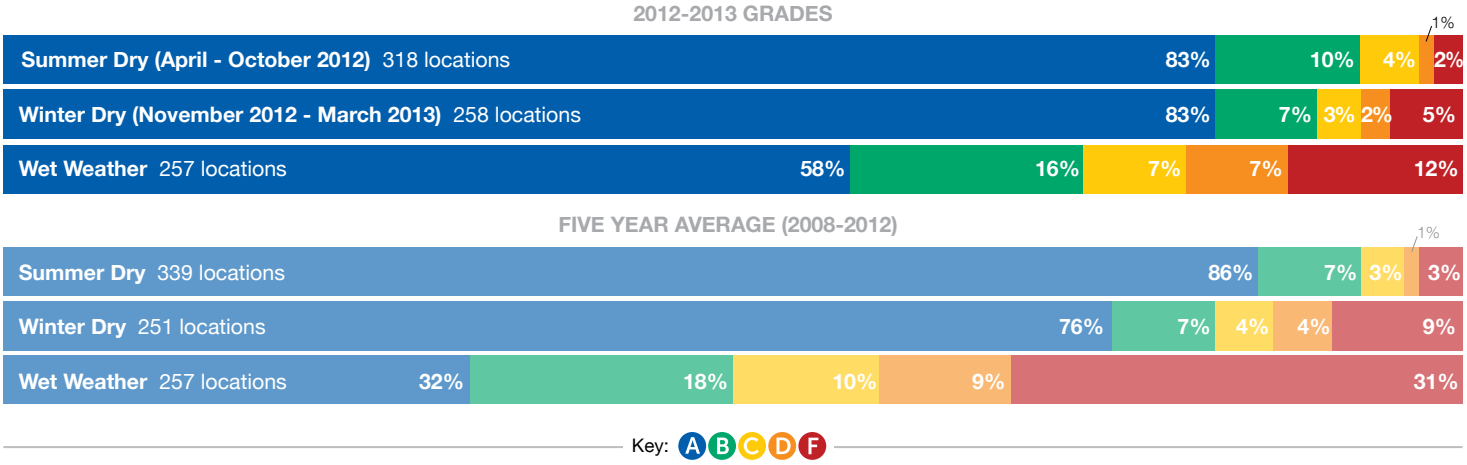
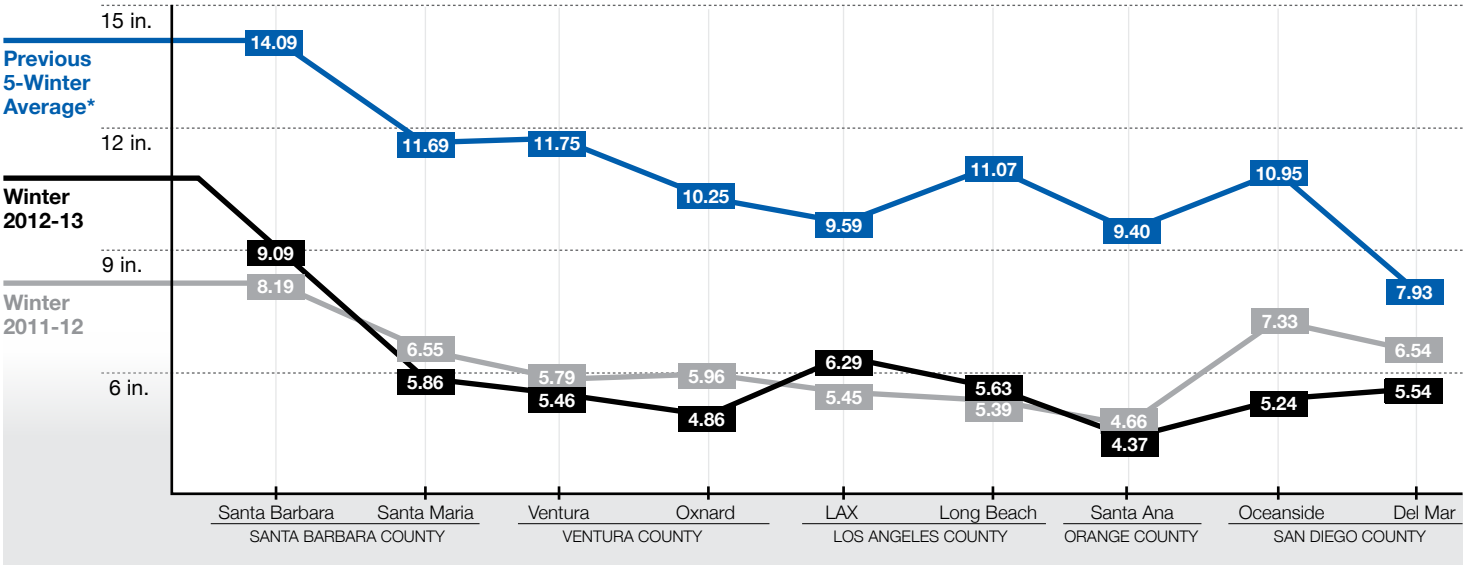


FIGURE 1-3: SOUTHERN CALIFORNIA WINTER RAINFALL

November-March rainfall totals for monitoring stations in Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties



Source: Accuweather.com *Winters 2007-08 thru 2011-12.

BEACH BUMMER
Tijuana Rivermouth area

BEACH BUMMER
Poche Beach, San Clemente

BEACH BUMMER
Doheny Beach, Dana Point

Poche Beach is no stranger to the Beach Bummer list, making its sixth appearance since 1999. Despite an urban runoff treatment facility and reduced bacteria concentrations observed in the ponded outlet last year, Poche Beach is the No. 3 most polluted beach in the state.

Moving up two spots to the No. 4 Beach Bummer spot this year (No. 6 last year) **Cabrillo Beach**'s chronically poor water quality grades continue to persist, despite $15 million invested in water quality improvement efforts.

Malibu Pier makes its Beach Bummer debut this year taking the No. 5 slot. The exact pollution source for Malibu Pier is unknown. Bacterial exceedances at this location appear to be seasonal. Heal the Bay plans to work with local agencies to monitor and implement source tracking at this location if the high bacteria levels return this summer.

The full list of Beach Bummers this year can be found on page 11.

California "Quick-Look"

San Diego County

San Diego continued to exhibit excellent beach water quality this past year, with 99% of all monitoring locations receiving an A or B grade during summer dry weather. Winter dry weather water quality was also excellent with 98% A or B grades. Wet weather grades were up 10% from the last report with 87% A or B grades this past year and bested both the five-year county average (by 19%) and this past year's statewide average (by 18%). The Tijuana River Mouth is the only monitoring location in San Diego County to earn a place on this year's Beach Bummer list, landing at the No. 10 spot. *For more information about San Diego County beach water quality this past year, see page 16.*

Orange County

Water quality in Orange County was excellent this past summer with 93% A or B grades. Beach water quality during the winter dry weather was also very good with 86% A or B grades. Wet weather A and B grades (73%) were up four percent from last year and bested the five-year average by 17%. Two Orange County beaches appear on the dreaded Beach Bummer list in this report: Doheny State Beach (No. 7) and Poche Beach (No. 3). *For more information about Orange County beach water quality this past year, see page 18.*

Los Angeles County

Summer dry weather water quality in Los Angeles was good with 84% A or B grades. Winter dry water quality was also good with 86% A or B grades (besting the five-year average by 16%). Though wet weather water quality continues to be an area of concern statewide, Los Angeles' wet weather A and B grades were up a dramatic 23% from the last report with 57% A or B grades and bested the county's five-year average by 24% – likely

BEACH BUMMER
Redondo Beach Pier

BEACH BUMMER
Avalon, Catalina Island

BEACH BUMMER
Cowell Beach, Santa Cruz

FIGURE 1-4: BEACH BUMMERS FOR PAST FIVE YEARS

Beaches listed in BOLD appear on the current 2012-2013 Beach Bummers list.

2009	2010	2011	2012	2013 BEACH BUMMERS
AVALON, CATALINA ISLAND	**AVALON, CATALINA ISLAND**	**COWELL BEACH, SANTA CRUZ**	**AVALON, CATALINA ISLAND**	**Avalon, Catalina Island** Los Angeles County
CABRILLO BEACH, HARBORSIDE	**COWELL BEACH, SANTA CRUZ**	**AVALON, CATALINA ISLAND**	**COWELL BEACH, SANTA CRUZ**	**Cowell Beach, Santa Cruz** Santa Cruz County
PISMO BEACH PIER, PISMO BEACH	**CABRILLO BEACH, HARBORSIDE**	**CABRILLO BEACH, HARBORSIDE**	MARIE CANYON, MALIBU	**Poche Beach** Orange County
COLORADO LAGOON, LONG BEACH	**POCHE BEACH, ORANGE COUNTY**	TOPANGA STATE BEACH	SURFRIDER BEACH, MALIBU	**Cabrillo Beach, harborside** Los Angeles County
SANTA MONICA PIER	SANTA MONICA PIER	**POCHE BEACH, ORANGE COUNTY**	SOLSTICE CANYON, MALIBU	**Malibu Pier** Los Angeles County
LONG BEACH, MULTIPLE LOCATIONS	COLORADO LAGOON, LONG BEACH	**DOHENY STATE BEACH, ORANGE COUNTY**	**CABRILLO BEACH, HARBORSIDE**	**Marina Lagoon** San Mateo County
POCHE BEACH, ORANGE COUNTY	BAKER BEACH, SAN FRANCISCO	ARROYO BURRO (HENDRY'S BEACH)	**DOHENY STATE BEACH, DANA POINT**	**Doheny State Beach, Dana Point** Orange County
SURFRIDER BEACH, MALIBU	CAPITOLA BEACH, SANTA CRUZ	BAKER BEACH, SAN FRANCISCO	**POCHE BEACH, ORANGE COUNTY**	**Redondo Beach Pier** Los Angeles County
CAMPBELL COVE, SONOMA COUNTY	MISSION BAY, SAN DIEGO	COLORADO LAGOON, LONG BEACH	ESCONDIDO STATE BEACH, MALIBU	**Windsurfer Circle** San Francisco County
DOHENY STATE BEACH, DANA POINT	WILL ROGERS BEACH, LOS ANGELES	CAPITOLA BEACH, SANTA CRUZ COUNTY	TOPANGA STATE BEACH	**Tijuana River Mouth** San Diego County

due to one of Southern California's driest winters on record (see Figure 1-3). However, Los Angeles County's percentage of wet weather A or B grades was 12% lower than the statewide average of 69% A or B grades.

Los Angeles County was host to four of the 10 beaches on the statewide Beach Bummer list this year: Redondo Municipal Pier (No. 8), Malibu Pier (No. 5), Cabrillo Beach harborside (No. 3) and Avalon Harbor Beach on Catalina Island (No. 1). *For more information about Los Angeles County beach water quality this past year, see page 20.*

Ventura County

Summer dry and winter dry weather water quality grades in Ventura County were excellent this past year, with 100% of all locations receiving A grades for both time periods. Wet weather water quality was also excellent with 20 of 21 (95%) locations receiving A or B grades. This year Ventura County bested its five-year average during winter dry and wet weather and beat the statewide average for all three time periods. *For more information about Ventura County beach water quality this past year, see page 26.*

Santa Barbara County

Santa Barbara displayed excellent water quality grades this past year, with 100% A or B grades during both summer and winter dry weather. Wet weather water quality was very good this year with 94% A or B grades (51% above the five-year county average and besting the statewide average by 25%). *For more information about Santa Barbara County beach water quality this past year, see page 27.*

San Luis Obispo County

Water quality was excellent this past year in San Luis Obispo during both summer and winter dry weather with 95% A or B grades during both time periods. Wet weather grades were good with 84% A or B grades (2% above the five-year county average and 15% above the statewide average). *For more information about San Luis Obispo County beach water quality this past year, see page 28.*

Monterey County

Monterey County's overall water quality slipped during summer dry weather this past year to 75% A or B grades (88% A or B grades in our last report). However, no monitoring locations in the county received lower than a C grade during summer dry weather. Wet weather water quality also dipped this past year to only 60% A or B grades (29% below the five-year county average). Beach monitoring locations in Monterey County were not sampled frequently enough year-round to receive a grade for the winter dry time period. *For more information about Monterey County beach water quality this past year, see page 29.*

Santa Cruz County

Only 77% of beaches received an A or B grade in Santa Cruz County during summer dry weather. Winter dry grades were much better with 92% of locations receiving an A or B grade. However, wet weather water quality in Santa Cruz was the worst in the state with only 25% A and B grades, 36% lower than the county's five-year average.

Cowell Beach once again earned the No. 2 spot on this year's Beach Bummer list. *For more information about Santa Cruz County beach water quality this past year, see page 30.*

San Mateo County

San Mateo County's summer dry grades were excellent this past year with 91% A or B grades, and just slightly below the county's five-year average of 93%. During winter dry weather this past year, 89% of monitoring

locations received an A or B grade. Wet weather water quality was poor this year with 44% A or B grades, well below the county's five-year (63%) and statewide (69%) averages. Two locations in San Mateo's Marina Lagoon (Aquatic Park and Lakeshore Park) share the No. 6 spot on this year's Beach Bummer list. *For more information about San Mateo County beach water quality this past year, see page 31.*

San Francisco County

This year San Francisco County earned very good water quality grades during summer dry weather with 86% of locations receiving A or B grades. Winter dry weather grades were fair with 71% of monitoring locations receiving A or B grades (5% below the county's five-year average). Wet weather grades were poor with only six of 14 beaches (43%) earning an A or B grade. Windsurfer Circle at Candlestick Point earned the No. 9 spot on this year's list of statewide Beach Bummers. *For more information about San Francisco County beach water quality this past year, see page 32.*

Contra Costa and Alameda Counties

Water quality grades for East Bay beaches were excellent this past year during summer dry weather, with all locations receiving an A grade. Wet weather water quality was poor with only 40% of locations earning an A or B grade, (29% below the state average). *For more information about East Bay beach water quality this past year, see page 34.*

Marin County

Marin County earned excellent water quality grades this past year during summer dry weather with all locations receiving A grades. Monitoring locations were not sampled through the winter. *For more information about Marin County beach water quality this past year, see page 35.*

Sonoma County

Sonoma County earned excellent water quality grades this past year during summer dry weather with all monitoring locations receiving A grades. Most monitoring locations in Sonoma County were not sampled through the winter. *For more information about Sonoma County beach water quality this past year, see page 36.*

Mendocino County

Of the three monitoring locations in Mendocino County that were sampled on a consistent weekly basis during summer dry weather this past year, 100% received A grades. No beaches in Mendocino County were sampled frequently enough through the winter to earn grades for any other time period in this report. *For more information about Sonoma County beach water quality this past year, see page 36.*

Humboldt County

Humboldt County earned excellent water quality grades this past year during summer dry weather with all five monitoring locations receiving A or B grades, besting the county's five-year average by 8%. Monitoring locations were not sampled frequently enough through the winter to receive grades for any other time period in this report. *For more information about Humboldt County beach water quality this past year, see page 37.*

Del Norte County

The beach at Battery Point Lighthouse in Del Norte County earned A grades for all three time periods this past year. No other locations in Del Norte County were sampled frequently enough (at least weekly) to receive grades in this report.

San Clemente (north of Pier)

Summer Dry	Winter Dry	Wet Weather
A	**A+**	**A+**

THE BEACH REPORT CARD

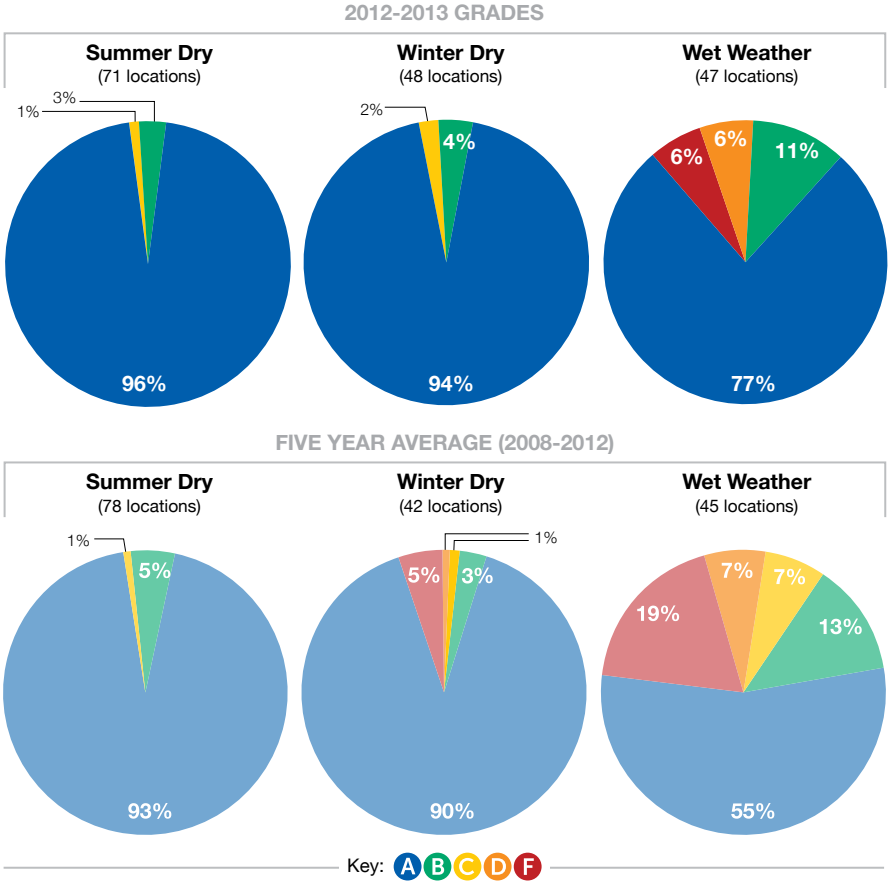
The Beach Report Card (BRC) is based on the routine monitoring of beaches conducted by local health agencies and dischargers. Water samples are analyzed for bacteria that indicate pollution from numerous sources, including fecal waste. The better the grade a beach receives, the lower the risk of illness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

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

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

San Diego County

FIGURE 2-1: SAN DIEGO COUNTY BEACHES



There are five agencies within San Diego County that provided monitoring information for Heal the Bay's Beach Report Card:

- 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)

Samples were collected throughout the year along open coastal and bay beaches, some sites are near flowing storm drains, creeks or rivers. Drainage outlet 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 this past year during summer dry weather in San Diego County was excellent. The Tijuana Slough at the Tijuana River Mouth (C grade) was the only location to earn a grade lower than an A or B, and took the No. 10 spot on this year's Beach Bummer list (Figure 1-4). The County's water quality grades during winter dry weather were also excellent with 98% of monitoring locations receiving A or B grades (only 68% of locations were sampled consistently throughout the winter). Figure 2-1 illustrates San Diego County's water quality grades for this past year compared to the previous five-year average. The percentage of wet weather A and B grades (87%) is up 10% from our last report and bested the county's five-year average of by nearly 20%.

A complete list of grades for San Diego County's beach monitoring locations can be found in Appendix C on page 79.

Tijuana River Bacterial Source Identification Study

In April 2008, the City of Imperial Beach led a Bacterial Source Identification Study in the Tijuana River Watershed, with funding provided by Clean Beach Initiative (CBI) grants. The results of the study, which was completed last fall, provide a detailed account

of the sources, loads and transport mechanisms of bacteria during both wet weather and dry weather conditions in the watershed. Main sources of bacteria, including human-specific bacteria, were identified as originating from rogue flows in Mexico as well as storm drain effluent on the U.S. side of the border. Based on these results, the City of Imperial Beach is considering the implementation of low impact development-type best management practices (BMPs) in addition to sewer system upgrades. Imperial Beach is also considering conducting additional studies in order to better identify and understand potential pollution sources and their impacts on the Tijuana River Watershed.

Tijuana River Impacts - Update

Unseasonal flow in the Tijuana River continues to be an issue that impacts beach water quality at Border Field State Park beach, the Tijuana River Wildlife Refuge and Imperial Beach. Dry weather flow is caused by treated effluent being discharged into the river upstream by the new sewage treatment plant in Tijuana.

Mexico's International and Boundary Water Commission constructed a diverter pump station at the border in order to capture and prevent unseasonal flows from crossing the U.S. border. Captured flows are diverted to the San Antonio de Los Buenos sewage treatment plant, located two miles south of the border. Unfortunately, the system sometimes malfunctions causing flows to impact the Tijuana Estuary and the Pacific Ocean shoreline at south San Diego Beaches.

Tijuana River Watershed Treaty

The International and Boundary Water Commission is currently developing a new treaty to address trash, sediment, and water quality in the Tijuana River Watershed. Once both nations are in agreement, the order will be signed into law and will allow for federal funding to be directed toward cross-border projects to improve water quality, and trash and sediment control at the U.S. and Mexico border.

Sewage Spill Summary

San Diego's border beaches were impacted this past year by massive amounts of untreated sewage spilled both into the Tijuana River or discharged directly to the ocean just south of the border at Playas de Tijuana. Estimates indicate that at least nine million gallons of untreated sewage were released over four separate events that resulted in 10 beach closure events from Silver Strand to the U.S. border. The four southernmost beaches in San Diego County were closed for a total of 139 days (nine more than last year) between April 1, 2012 and March 31, 2013. Imperial Beach was included in eight of these closure events. The longest closure of the year affected the four southernmost border beaches from Dec. 13, 2012 through the end of the time frame of this report.

Five other spills with an estimated 56,500 gallon discharge resulted in San Diego County beach closures this past year. The first large (>10,000 gallons) spill began on Oct. 7, 2012 with approximately 27,000 gallons released into Batiquitos Lagoon due to a broken pipe at a pump station. The beach at the lagoon outlet was closed for eight days. Another large spill occurred Feb. 1, 2013 when a ruptured sewage force main along Ponto Drive released an estimated 22,000 gallons and resulted in a three day beach closure at Carlsbad State Beach Campground. Other smaller spills throughout the winter closed 15th Street in Del Mar (300 gallons/two-day closure beginning Oct. 22, 2012), Moonlight Beach in Encinitas (6,200 gallons/three-day closure beginning Nov. 18, 2012), and Torrey Pines State Beach at Los Peñasquitos Lagoon outlet (1,000 gallons/two-day closure beginning Dec. 16, 2012).

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

The type of beach often impacts its grade.
(See page 59 for more information on *Beach Types and Water Quality*)

San Diego County grades were excellent, with the exception of the southern beaches impacted by the Tijuana River

San Diego's border beaches were impacted this past year by massive amounts of untreated sewage

Orange County

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

- Orange County Environmental Health
- South Orange County Wastewater Authority
- 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. Samples were generally not collected at point zero (at the drainage outlet) but at a distance from the potential pollution source.

Orange County grades for summer dry weather this past year were excellent (93% A or B grades). Poche Beach and portions of Doheny State Beach displayed the county's only poor water quality grades during the summer dry weather time period. During winter dry weather 86% of the year round monitored beaches received A or B grades. (Figure 2-2).

All six monitoring sites between Doheny State Beach and 3,000 feet south of San Juan Creek received D or F grades during the winter dry months and during wet weather. Other poor grades during winter dry weather were found at Poche Beach (D grade) and in Newport Bay at Newport Dunes' west side (F grade) near the rental boat dock.

Wet weather water quality in Orange County this past year was up 4% from our last report with 73% of monitoring locations receiving A or B grades during wet weather compared to 69% in 2011-2012.

Figure 2-2 illustrates an assessment of this past year's grade percentages at Orange County beaches compared to the previous five-year average. Orange County once again displayed excellent summer dry weather water quality grades despite being four percentage points below the dry weather five-year average (97% A or B grades) with 93% A or B grades this past year. Winter dry weather was also good with 86% A or B grades, right on par with the five-year average.

A complete list of grades for Orange County's beaches can be found in Appendix C on page 81.

The type of beach often impacts its grade.

(See page 59 for more information on *Beach Types and Water Quality*)

Poche Beach

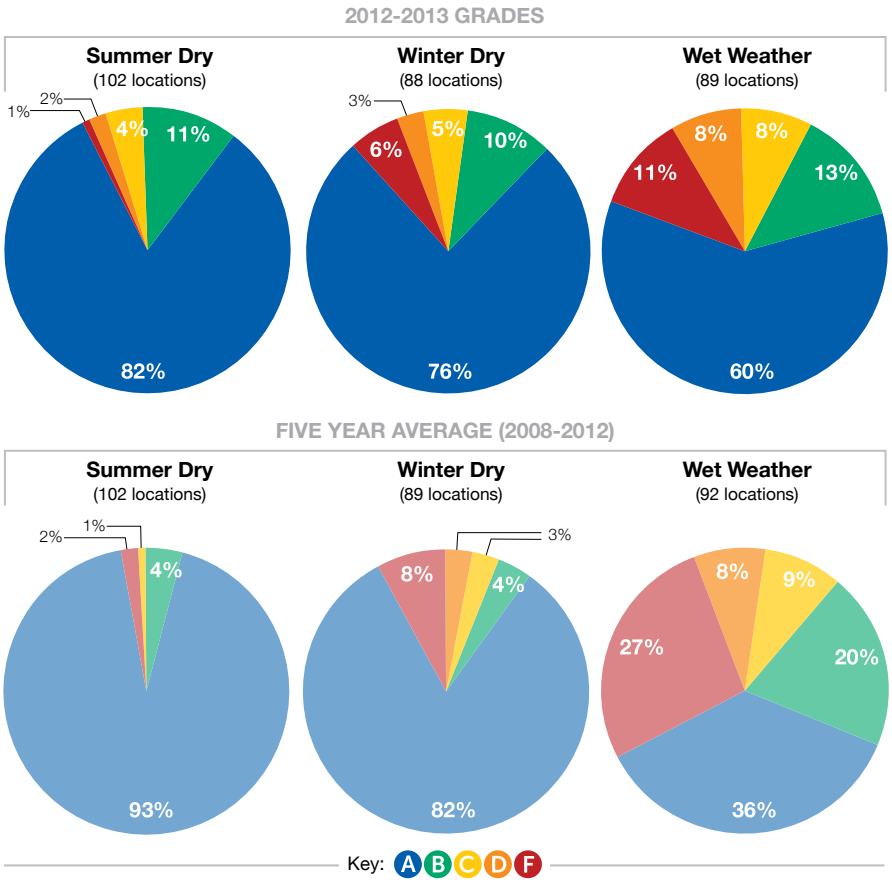
Poche Beach claims the No. 3 spot on this year's Beach Bummer list, making its sixth consecutive appearance on the infamous list.

Due to Poche's chronically high bacteria levels, the Poche Clean Beach Project (CBP) started in July 2010. Results showed that treating and rerouting urban runoff (to the ocean rather than into the scour pond) had little to no effect on improving beach water quality. Further research revealed a positive correlation between surf zone samples and seagull-specific bacterial markers, prompting the County to install an ultrasonic device this past winter, in an attempt to deter hundreds of birds from Poche's scour pond. Heal the Bay is encouraged by Poche Beach's weekly A grades so far this spring and anticipates consistently improved water quality at this location.

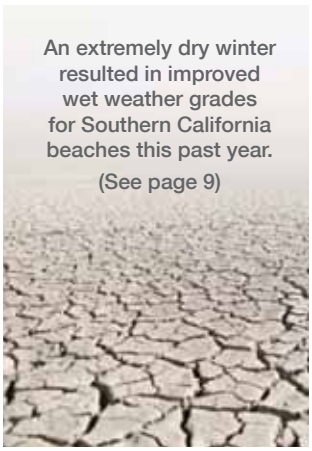
Doheny State Beach

Doheny State Beach is no stranger to the Beach Bummer list and this year it takes the No. 7 spot, based on two chronically polluted monitoring loca-

FIGURE 2-2: ORANGE COUNTY BEACHES



tions (North Beach and 2,000 feet south of the outfall). In January 2012, the article "Using Rapid Indicators for Enterococcus to Assess the Risk of Illness after Exposure to Urban Runoff Contaminated Marine Water" was published in *Water Research* (*www.ncbi.nlm.nih.gov/pmc/articles/PMC3354759*). This paper assessed the risk of illness after exposure to urban runoff 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. Specifically, 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. To better understand the types of sources leading to increased public health risks, a source identification study, complete with dye testing and multiple source markers, is currently being conducted. We are hopeful that the investigation led by the Southern California Coastal Water Research Project (SCCWRP) will find answers on sources currently present and those contributing to the increased health risks at Doheny Beach.



Orange County Monitoring Program

Three 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.

Heal the Bay provided comments on the proposed plan, recommending that Orange County increase the monitoring frequencies at high-use or high-risk beaches. We also recommended that any 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.

Sewage Spill Summary

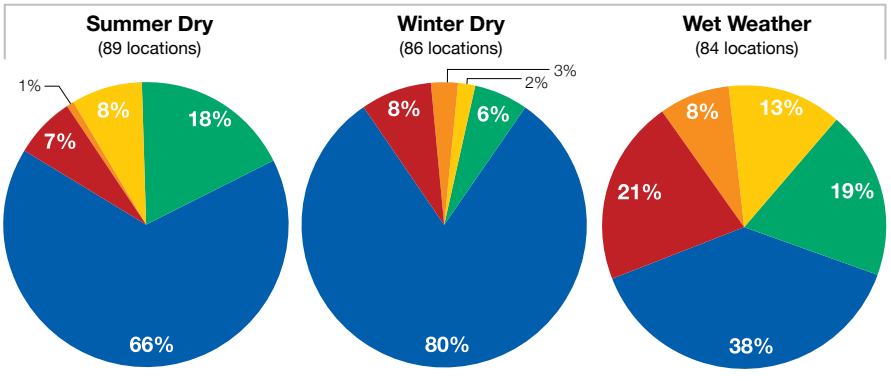
Orange County had nine sewage spills that led to beach closures this past year. Four of these spills were ≥1,000 gallons and all nine of them occurred during the summer beach season. The first substantially sized spill was approximately 2,800 gallons released on Aug. 16, 2012 due to a line break that resulted in beaches along Bayside Drive (and the East Bay Front of Balboa Island) in Newport Bay to be closed for three days. The second notable spill on Aug. 25, 2012 was approximately 1,000 gallons and resulted in Newport Bay locations from 33rd Street to 38th Street to be closed for six days. A pump station failure on Sept. 30, 2012 led to the release of about 1,100 gallons of sewage that resulted in a beach closure from the San Gabriel River mouth to 500 feet south of the river in Seal Beach to be closed for three days. The final notable spill was about 1,000 gallons occurring on Oct. 9, 2012 due to line blockage and resulted in Baby Beach and West Basin Docks in Dana Point Harbor being closed for two days.

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

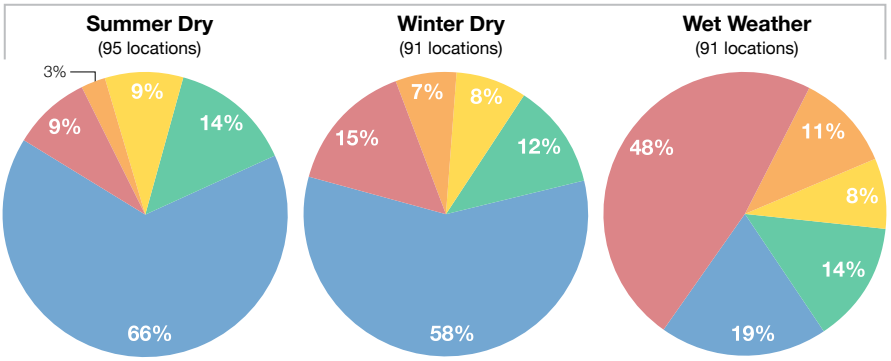
Los Angeles County

FIGURE 2-3: LOS ANGELES COUNTY BEACHES

2012-2013 GRADES



FIVE YEAR AVERAGE (2008-2012)



Key: A B C D F

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

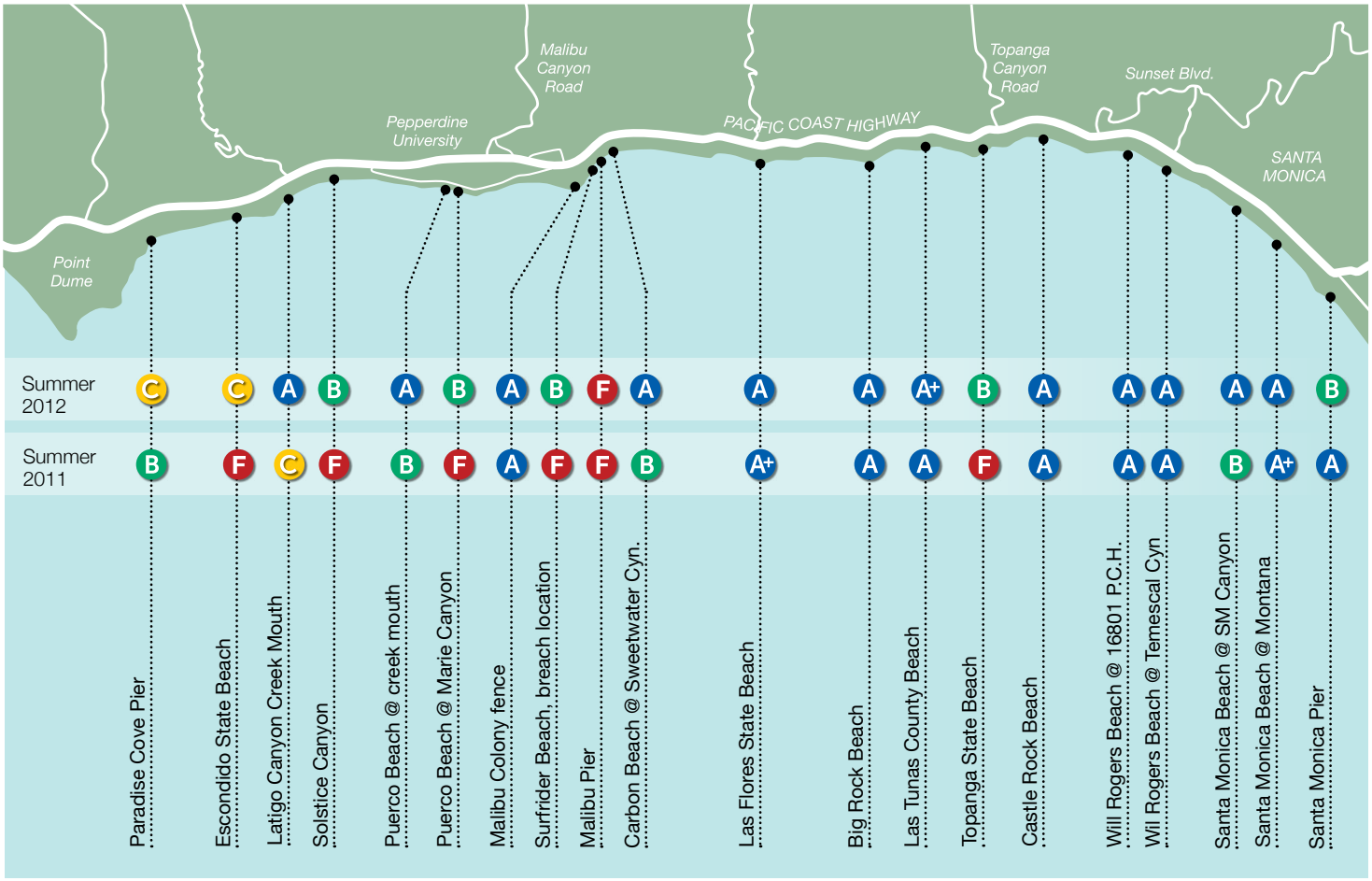
- City of Los Angeles' Environmental Monitoring Division (EMD) at the Hyperion Sewage Treatment Plant provided daily or weekly beach data for 36 locations
- The Los Angeles County Department of Public Health Environmental Health program monitored 30 locations on a weekly basis
- Los Angeles County Sanitation 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

Los Angeles County outlet beaches (those adjacent to a storm drain or creek) are monitored directly at the outfall. Heal the Bay believes that monitoring closest to a potential pollution source or outlet (point zero) gives the most accurate picture of water quality at these types of beaches and is also the most protective of public health.

Los Angeles County's summer dry weather A and B grades were up two percent this past year to 84% (up 9% from two years ago), and better than the county's five year average of 80%. Huge stretches of beaches scored A or B grades this past summer from Carbon Beach at Sweetwater Canyon in Malibu all the way to the Herondo Street drain in the South Bay. The South Bay saw mostly excellent water quality during the summer months from Dockweiler Beach to Cabrillo Beach (oceanside). All South Bay beaches received A or B grades with the exception of Redondo Municipal Pier (south side) and Redondo State Beach at Topaz Street, which both received C grades for summer dry weather.

Overall Santa Monica Bay summer dry water quality was excellent, and A and B grades were up 6% from our last report with 92% of beaches (from Leo Car-

FIGURE 2-4: SUMMER GRADES, PAST TWO YEARS FROM MALIBU TO SANTA MONICA



An extremely dry winter resulted in improved wet weather grades for Southern California beaches this past year.
(See page 9)

rillo to Palos Verdes) receiving A or B grades. This is slightly better than the five-year average of 91% A or B grades for summer dry weather.

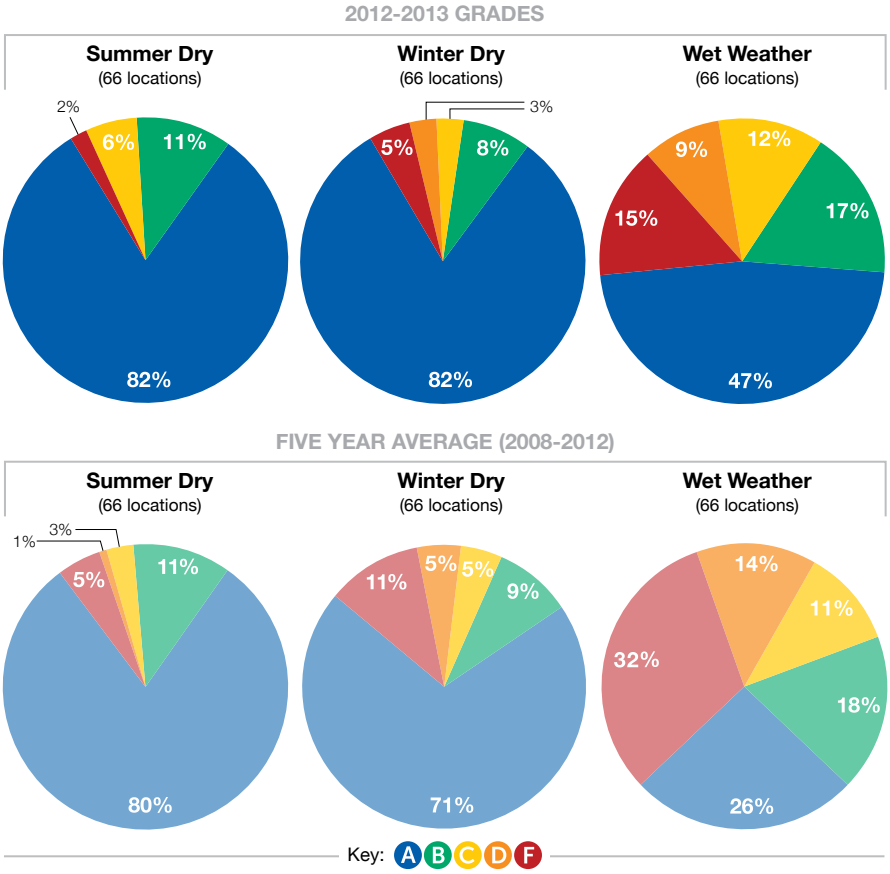
Winter dry weather water quality in Los Angeles County was good with 74 out of 86 monitoring locations (86%) receiving A or B grades and besting the county's five-year average by 16% (Figure 2-3).

The number of A and B grades in Los Angeles County during wet weather was dramatically higher this past year with 57% of beaches receiving A or B grades (a 23% increase from last year and besting the five-year average by 24%). Eighteen of 84 (21%) of sample sites received F grades this past year during wet weather compared to 42 out of 86 (49%) in our last report. Wet weather water quality in Los Angeles also bested the five-year statewide average by two percent. This past rainy season was one of the driest on record (see page 9), which lead to less polluted stormwater runoff, and typically boded well for Southern California beachgoers.

Though Los Angeles County grades were up this past year across the board, they still fell short (by as much as 12%) compared to the statewide average for each of the three time periods. However, Los Angeles County's move to sample at the mouth of flowing storm drains and creeks due to the Santa Monica Bay Beach Bacteria Total Maximum Daily Load (TMDL) has historically contributed to the County's grades being below the state average. Still, it is important to note that the discrepancy among counties should not solely be attributed to the sampling location. For example, the beaches at Avalon and Cabrillo (harborside at restrooms) had very poor water quality again this year even though storm drains are not a major contributor to pollution at these locations.

A complete list of grades for Los Angeles County's beach monitoring locations can be found in Appendix C on page 83.

FIGURE 2-5: SANTA MONICA BAY BEACHES



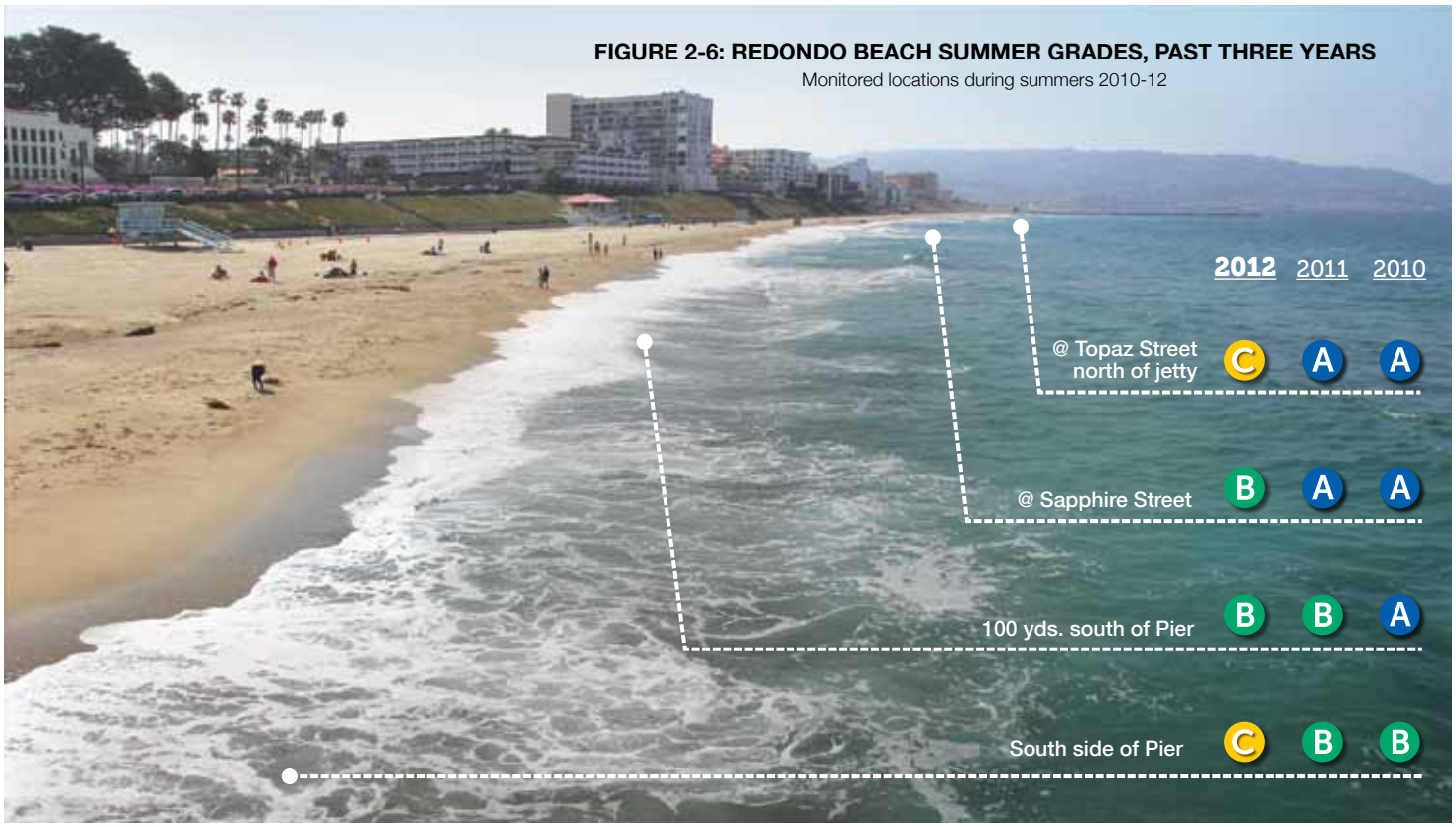
Malibu Pier

Malibu Pier makes its Beach Bummer debut this year taking the No. 5 slot. After several site visits by Heal the Bay, no obvious pollution sources were identified on or near the pier. Bacterial exceedances at this location appear to be seasonal. Heal the Bay plans to work with local agencies to monitor and implement source tracking at this location if the high bacteria levels return this summer.

Redondo Pier

This is not Redondo Pier's first appearance on the infamous Beach Bummer list as it made its debut in 2005.

According to a 2010 Source Identification Study led by the Los Angeles County Sanitation District, definitive pollution sources potentially affecting Redondo Pier's water quality were never identified. However based on the study's recommendations, the City of Redondo Beach installed four permanent no swimming signs (two on each side of the pier) and is implementing weekly trash pick-ups on and under



Cabrillo Beach (ocean side) made the Honor Roll list for the cleanest beaches in California this year

Cabrillo Beach (harborside) made another appearance on Heal the Bay's Beach Bummers list for polluted beaches

the pier in order to reduce debris and other potential sources of bacteria. The city plans on following up with additional source tracking studies in order to pin-point potential pollution sources.

After a recent inspection by the L.A. Regional Water Quality Control Board, the City of Redondo Beach replaced a faulty sewer pipe coupling under the pier. The Regional Board also noted a flowing storm drain that could be a pollution source, as there is no low flow diversion installed at this location. We encourage the city to be aggressive in their source mitigation efforts in order improve the Pier's inconsistent beach water quality.

Cabrillo Beach (harborside)

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 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.

The City of Los Angeles is currently working on the following projects:

- Installation of seven more bird exclusion posts next to the water edge to prevent birds from landing on the beach. These were scheduled to be completed by the end of April 2013
- Investigation of two drains located near the boat ramp to determine any adverse impact on water quality
- Implementation of a Natural Source Exclusion (NSE) study

According to the Santa Monica Bay Beaches Bacteria TMDL, NSE-based criteria can be applied to sites where source identification studies show no or minimal human contamination. This approach should only be considered as a last-ditch effort and only implemented after all anthropogenic sources of bacteria have been eliminated.

Malibu Civic Center - Update

In July 2011, the Regional Board entered into a Memorandum of Understanding (MOU) with the City of Malibu to implement the previously adopted septic prohibition in the Malibu Civic Center area. The Regional Board had previously found that wastewater from commercial and residential septic systems in the Civic Center area leaches into Malibu Creek and Lagoon and then flows into the ocean, placing public health at risk. Earlier this year, the City of Malibu presented at a public hearing to the Regional Board that they are nine months behind in the agreed-upon schedule to develop an environmental impact report for their water recycling facility. The city has begun various other steps required in the MOU. Heal the Bay will continue to track this process closely and advocate for Malibu maintaining its compliance schedule.

The Los Angeles County Municipal Separate Storm Sewer System (MS4) stormwater permit, though years overdue was adopted by the Los Angeles Regional Board last fall. However, beach-goers may be at risk by the permit's weakened water quality protections. For more details on the Los Angeles County MS4 permit see page 55.

Avalon Beach

Four out of five monitoring locations at Avalon Beach received an F grade for summer dry weather with the remaining location receiving a D grade. Although all five monitoring locations consistently exceed state bacteria standards, the City of Avalon has made strides towards improving beach water quality. These efforts are partially in response to the

Avalon Beach, south of Pier

Summer Dry	Winter Dry	Wet Weather
F	n/a	n/a

The type of beach – open, enclosed, or close to stormdrains – often impacts its grade.
(See page 59 for information on beach types)

TMDL and Cease and Desist Order (CDO) adopted due to Avalon's chronic beach water quality issues. Over the past couple of years the city has focused on identifying and replacing corroded sewer infrastructure, updating the wastewater treatment plant and streamlining routine sewer and treatment plant maintenance. Though these improvements were long overdue, Heal the Bay remains positive and anticipates greatly improved beach water quality at Avalon Beach, hopefully as soon as this summer.

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. In April 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 primary goals of the project were to dredge and remove sediment and revegetate portions of the lagoon with native plants. Phase one of the project, which includes storm water diversions, dredging of contaminated sediments, trash traps and bioswales was completed in August 2012. Phase two will create an open channel to Marine Stadium that will aid in circulation to the Lagoon. The City of Long Beach is currently securing funds to pursue this next phase of the project.

The City of Long Beach has made significant efforts to locate pollution sources and improve water quality. As a result of their efforts, the Colorado Lagoon dropped off of the Beach Bummer list in 2012. Colorado Lagoon's two monitoring locations received A grades during winter dry weather in this report, but due to lagoon dredging from January through August 2012, were not sampled enough year round this past year to receive grades for any other time period.

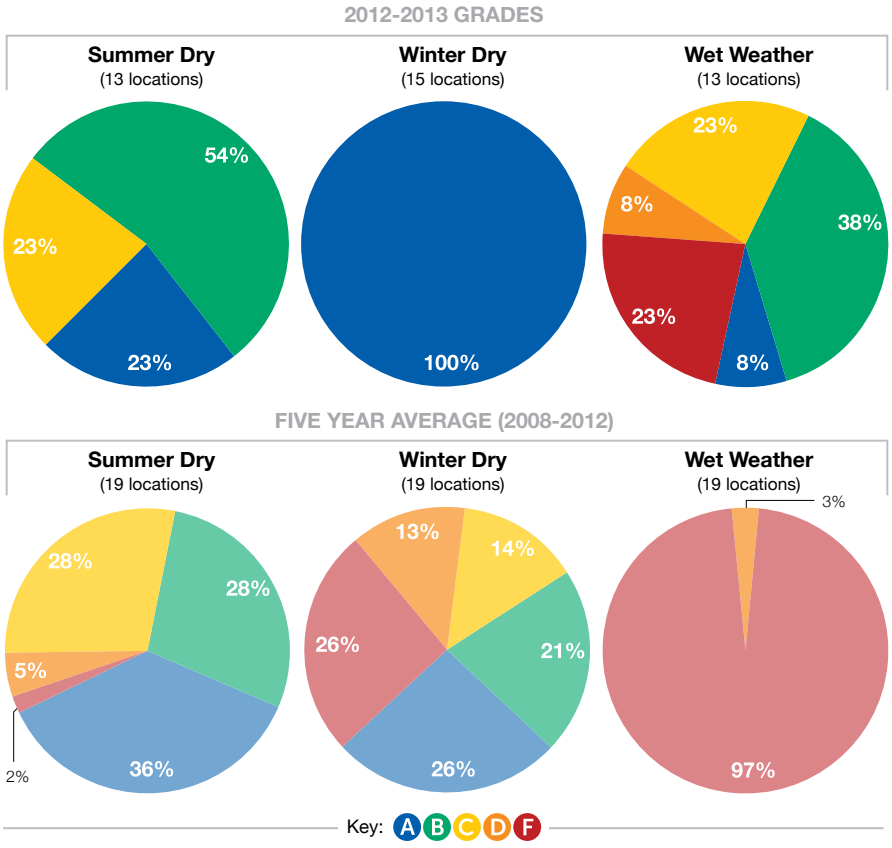
Overall, Long Beach's summer dry weather A and B grades were down 16% from our last report to 77% this past year. However, this is 15% higher than the five year average for Long Beach. Winter dry weather grades were remarkable with 100% of locations earning A grades – 53% higher than Long Beach's five-year average (see Figure 2-7).

Extensive studies throughout the city have demonstrated that the Los Angeles River, an enormous pollution source because of its 100-plus square mile drainage, is the predominant source of fecal bacteria to Long Beach waters. However, wet weather water quality jumped to 46% A or B grades this past year, a dramatic improvement over the five-year average of 0% A or B grades. This dramatic increase is at least partially due to record-low rainfall this past year, but overall, Long Beach water quality appears to be trending in the right direction.

Sewage Spill Summary

There were 13 sewage spills to waterways in Los Angeles County this past year but only two of these resulted in beach closures. The largest spill in the county was an estimated 8,222 gallons that spilled across the street from the Ballona Wetlands and less than two miles from the beach. We are concerned that Los Angeles County Department of Public Health determined that the overflow did not even warrant a precautionary closure at Ballona Creek outlet, despite this potential health threat.

FIGURE 2-7: LONG BEACH CITY BEACHES



The first spill resulting in beach closures occurred on May 12, 2012 and involved over 5,000 gallons of sewage into a reach of the L.A. River. Beaches west of the Belmont Pier in Long Beach were closed for five days until bacteria tests returned to safe swimming levels. The other beach closure in Los Angeles County affected Alamitos Bay beginning Sept. 30, 2012. Approximately 1,000 gallons of sewage was released into the Cerritos Channel prompting the City of Long Beach Health Department to close Mother's Beach and other bayside locations for six days.

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

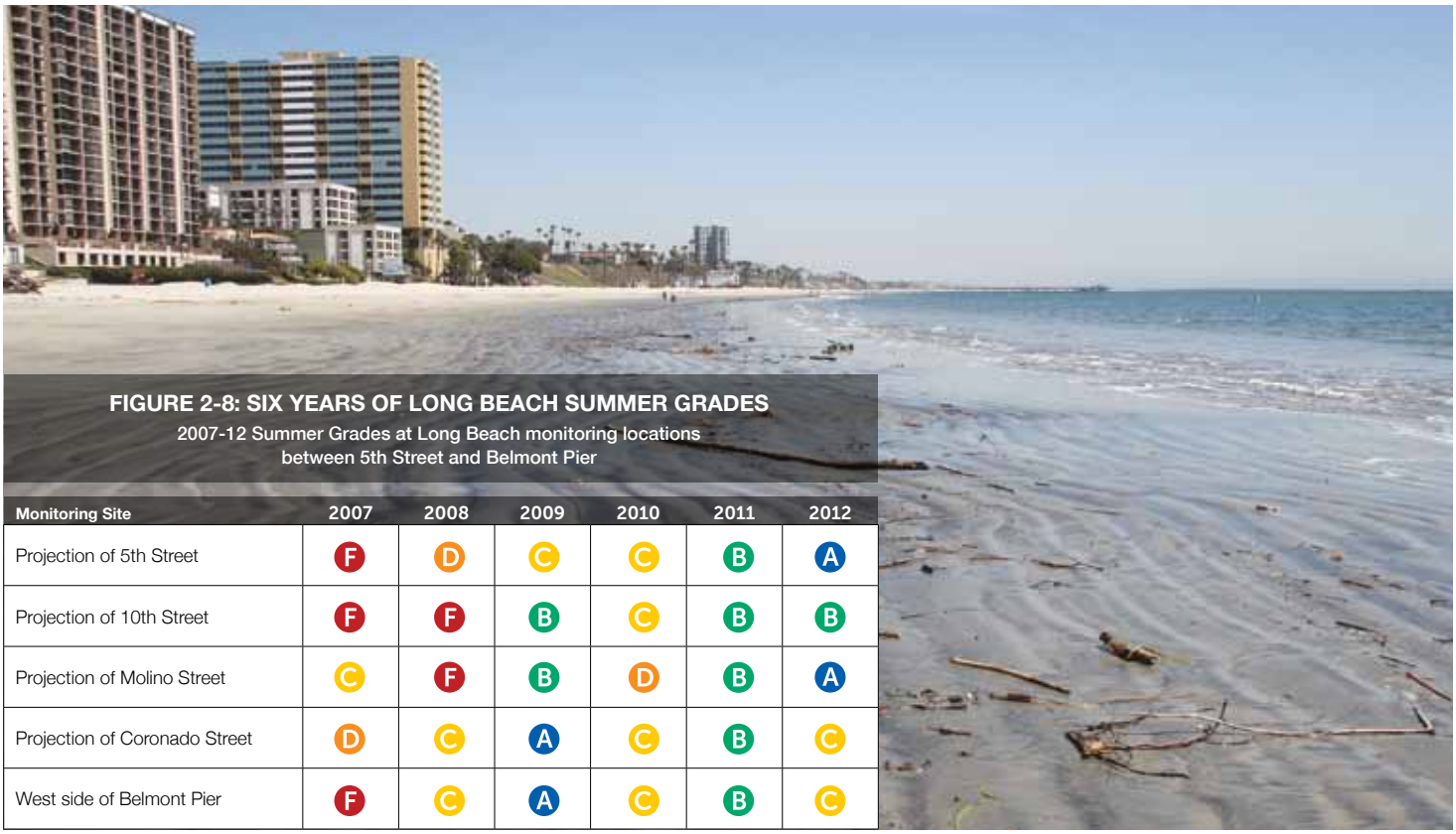
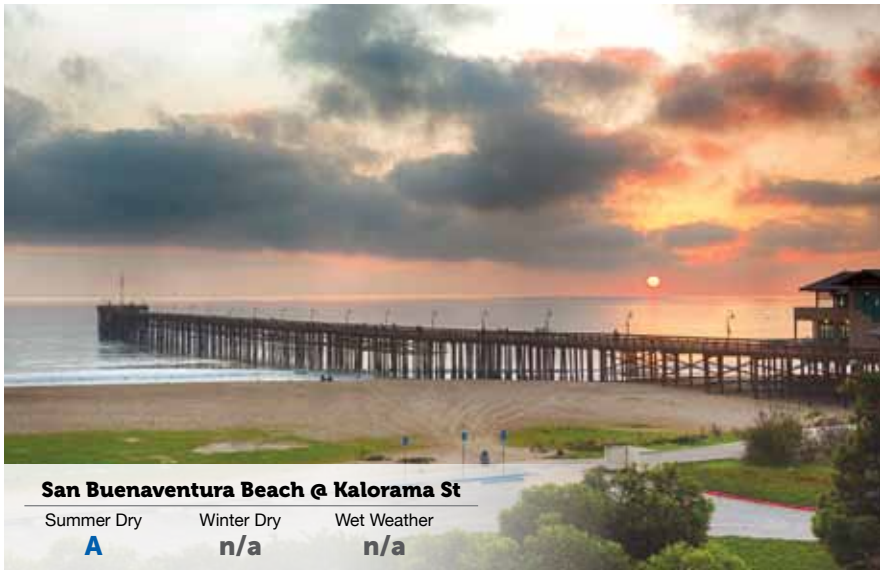


FIGURE 2-8: SIX YEARS OF LONG BEACH SUMMER GRADES

2007-12 Summer Grades at Long Beach monitoring locations between 5th Street and Belmont Pier

Monitoring Site	2007	2008	2009	2010	2011	2012
Projection of 5th Street	F	D	C	C	B	A
Projection of 10th Street	F	F	B	C	B	B
Projection of Molino Street	C	F	B	D	B	A
Projection of Coronado Street	D	C	A	C	B	C
West side of Belmont Pier	F	C	A	C	B	C

Ventura County



The County of Ventura Environmental Health Division monitored 40 locations weekly from April through October (20 locations were monitored year round), from Rincon to the southern end of Ormond Beach.

Summer dry weather water quality at Ventura County beaches this past year was excellent (see chart at left). Only one location received a poor grade during the wet weather period, Hobie Beach (F grade). The county's grades during winter dry and wet weather bested its previous five-year averages, with the summer dry grades tying the perfect five-year average of 100% A grades.

A complete list of grades for Ventura County can be found in Appendix C on page 86.

Ventura County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	40	100%	20	100%	18	86%
	B	0	0%	0	0%	2	10%
	C	0	0%	0	0%	0	0%
	D	0	0%	0	0%	0	0%
	F	0	0%	0	0%	1	5%
	Total #:	40		20		21	
5 Yr. Average	A		100%		96%		39%
	B		0%		1%		35%
	C		0%		3%		14%
	D		0%		0%		9%
	F		0%		0%		3%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

For additional water quality information:

Ventura County's Environmental Heath Division
www.ventura.org/rma/envhealth/technical-services/ocean/index.html

In July 2010, the Regional Water Board adopted a new Ventura County Municipal Storm Water Permit. 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. The Ventura Countywide Stormwater Quality Program is making great strides in tracking bacteria exceedances and addressing stormwater flows through the development and implementation of BMPs including low-impact development and diversion projects. Also, as a part of the county's permit, the implementation of an Illicit Connections and Discharges Program have led to over 350 enforcement actions in order to eliminate these illegal activities.

There were two beach water quality-related Supplemental Environmental Projects (SEP) in Ventura County over the past year. First, SCCWRP led a Quantitative Microbial Risk Assessment (QMRA) case study in Ventura in order to determine if site-specific risk modeling could be accomplished. *See page 52 for more information on the QMRA case study.*

Also as a SEP initiative, the City of Ventura applied $298,500 of the penalties assessed 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 project's construction was recently completed ahead of schedule and will be online and fully functioning before this summer.

Sewage Spill Summary

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

Santa Barbara County

East Beach @ Mission Creek

Summer Dry	Winter Dry	Wet Weather
A	A+	B

The County of Santa Barbara Environmental Health Agency monitored 16 locations on a weekly basis from year-round, 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.

Summer dry weather water quality in Santa Barbara was excellent, with all 15 monitoring locations receiving A or B grades (88% A grades), besting the county's five-year average of A and B grades by three percent. All locations also received A or B grades during winter dry weather, besting the county's five-year average by nine percent. Leadbetter Beach was the only beach to receive a grade below an A or B (over all three time periods) earning a C grade during wet weather.

Santa Barbara County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	14	88%	13	81%	10	63%
	B	2	13%	3	19%	5	31%
	C	0	0%	0	0%	1	6%
	D	0	0%	0	0%	0	0%
	F	0	0%	0	0%	0	0%
	Total #:	16		16		16	
5 Yr. Average	A		82%		85%		19%
	B		15%		6%		24%
	C		2%		3%		30%
	D		0%		4%		10%
	F		1%		3%		16%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

For additional water quality information:

Santa Barbara County's Environmental Health Agency
www.sbcphd.org/ehs/ocean.htm

Arroyo Burro Beach improved to a B grade this past summer (up from a C grade in our last report and the No. 7 spot on the Beach Bummer list in our 2011 report). East Beach at Mission Creek had excellent water quality during all three time periods this past year and improved to A+ and B grades from D and F grades for the winter dry and wet weather time periods.

Santa Barbara's number of wet weather A and B grades was up to 94% this past year (up a drastic 54% from our last report), and bested the county's five-year average by 51% and state average by 25%. Improved beach water quality throughout Santa Barbara has followed aggressive water quality improvement projects and research. Recent projects include the Laguna Channel Watershed Study, Water Quality Feasibility Analysis, and Source Tracking Program which have led to the identification and repair of leaking sewer lines, as well as lagoon habitat restoration. In addition, near-record-low rainfall in Southern California this past winter (see page 9) also likely contributed to the improved grades.

A complete list of grades for Santa Barbara County's beach monitoring locations can be found in Appendix C on page 87.

Sewage Spill Summary

There was one sewage spill of approximately 6,600 gallons (due to a root blockage) that resulted in the closure of Leadbetter Beach for four days beginning on Dec. 3, 2012.

San Luis Obispo County

San Luis Obispo County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	17	89%	16	84%	13	68%
	B	1	5%	2	11%	3	16%
	C	1	5%	1	5%	1	5%
	D	0	0%	0	0%	2	11%
	F	0	0%	0	0%	0	0%
	Total #:	19		19		19	
5 Yr. Average	A		93%		92%		61%
	B		4%		4%		20%
	C		1%		2%		10%
	D		1%		1%		3%
	F		1%		1%		5%

= Number of Monitoring Locations
*State AB411 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 Services

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

San Luis Obispo County 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).

Dry weather water quality in San Luis Obispo this past year was excellent, with 95% of monitoring locations receiving A or B grades during both the summer and winter dry weather time periods. Only one location received below an A or B grade during summer and winter dry weather, Olde Port Beach (C grades).

The number of A and B grades during wet weather was down 5% from our last report with 84% this past year. This was slightly better (2%) than the county's five-year average (82% A or B grades) and 15% above the state average for A or B grades. Cayucos State Beach, between Cayucos Creek and the Pier (D grade), Avila Beach projection of San Juan Street (D grade) and Avila Beach projection of San Luis Street (C grade) were the only locations in the county to score lower than an A or B grade during wet weather this past year.

A complete list of grades for San Luis Obispo County's beach monitoring locations can be found in Appendix C on page 87.

Sewage Spill Summary

There were two sewage spills in San Luis Obispo County that resulted in beach closures this past year. The first was a spill of about 600 gallons on July 24, 2012 that resulted in the precautionary closure of Shell Beach for 24 hours. The second spill was approximately 1,000 gallons on Oct. 26, 2012 due to a blockage that resulted in ocean water closure of Port San Luis and Avila Beach for two days.

Monterey County

Monterey County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	5	63%			2	40%
	B	1	13%			1	20%
	C	2	25%			0	0%
	D	0	0%			0	0%
	F	0	0%			2	40%
	Total #:	8				5	
5 Yr. Average	A		80%				81%
	B		8%				7%
	C		8%				0%
	D		5%				7%
	F		0%				4%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

Stillwater Cove @ Beach & Tennis Club

Summer Dry	Winter Dry	Wet Weather
C	n/a	A+

For additional water quality information:

Monterey County Health Department
www.mtyhd.org

The Monterey County Health Department 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 this past year, six of the eight (75%) monitoring locations in Monterey County received A or B grades. Both Stillwater Cove and Lover's Point Park received C grades for the same time period. The number of wet weather A and B grades was down 28% from our last report to 60% this past year. San Carlos Beach Park (F grade) and Lover's Point Park (F grade) were the only beaches to score lower than a B during wet weather this past year.

Monterey beaches were not monitored frequently enough (at least weekly) throughout the winter to earn grades for the winter dry weather period.

A complete list of grades for Monterey County's beach monitoring locations can be found in Appendix C on page 88.

Sewage Spill Summary

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

Santa Cruz County

Santa Cruz County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	10	77%	7	58%	1	8%
	B	0	0%	4	33%	2	17%
	C	1	8%	0	0%	4	33%
	D	0	0%	1	8%	2	17%
	F	2	15%	0	0%	3	25%
	Total #:	13		12		12	
5 Yr. Average	A		72%		85%		28%
	B		9%		7%		33%
	C		4%		3%		23%
	D		1%		2%		10%
	F		13%		3%		7%

= Number of Monitoring Locations
*State AB411 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

The County of Santa Cruz Environmental Health Services monitored 13 shoreline locations frequently enough (at least weekly) to be included in this report, spanning the area from Natural Bridges State Beach downcoast to Rio del Mar Beach.

Ten of the 13 (77%) beaches in Santa Cruz County received A grades during the summer dry weather period this past year. Capitola Beach west of the jetty scored a fair grade (C grade) during the summer dry period, with poor grades at Cowell Beach at the wharf (F grade) and Cowell Beach Lifeguard Tower (F grade).

Winter dry weather grades in Santa Cruz County were excellent overall with only one location receiving lower than a B grade: Capitola Beach west of the jetty (D grade), which also has a history of chronically polluted beach water. Potential pollution sources are currently under investigation.

The number of wet weather A and B grades was dramatically lower this past year, with only three of 12 locations (verses 10 in last year's report) receiving A or B grades.

A complete list of grades for Santa Cruz County's beach monitoring locations can be found in Appendix C on page 88.

Cowell Beach

This is Cowell Beach's fourth consecutive year on the Beach Bummer list, claiming the No. 2 most polluted spot for the second year in a row. In 2010, researchers from Stanford University initiated a Source Identification Protocol Project (SIPP) at Cowell Beach, in hopes of tracking sources leading to poor beach water quality at this location. Researchers found a buried pipe in the sand that contained high levels of human-associated bacteria. The bacteria source was tracked to a toilet in an apartment building, flushing directly into the stormdrain. Other likely sources of pollution include open defecation from a prevalent homeless population and a large bird population at the wharf. The Santa Cruz City Council has approved a motion to address Cowell's chronic pollution problem including the following action items:

1) Requesting regular water quality reports from the county, which outline potential impacts to city beaches and watersheds.
2) Directing the Transportation and Public Works Commission to review and make recommendations towards reducing illegal stormdrain discharges, implementing RV parking permit programs or new disposal sites, and additional water quality monitoring.
3) Developing an action plan to address illegal encampments and their detrimental environmental effects.

The City of Santa Cruz is also making efforts to survey sewer laterals and has applied for CBI funding to retrofit stormdrain pipes to better protect against illicit sewage discharges.

Sewage Spill Summary

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

San Mateo County

The County of San Mateo Environmental Health monitored 23 ocean and bayside locations on a weekly basis during the summer months, from as far upcoast as Sharp Park Beach to a downcoast location at Gazos Creek. Eighteen of these locations were monitored year round and earned grades for all time periods (see Figure 2-11 on page 33 for combined grades of the Bay Area).

San Mateo County beaches had excellent summer dry weather water quality this past year. Twenty-one of 23 (91%) beach monitoring locations received A or B grades during this time period. The county's only poor grades during summer dry weather were at Aquatic Park (F grade) and Lakeshore Park (D grade). As a result these two Marina Lagoon beaches share the No. 6 spot on this year's statewide Beach Bummer list. The residual effects from a December 2012 sewage spill likely contributed to Marina Lagoon's poor water quality grades.

The number of A and B grades during wet weather in San Mateo slipped 27% from our last report to 44% this past year (25% below the state average of 69% A or B grades during wet weather).

A complete list of grades for San Mateo County's beach monitoring locations can be found in Appendix C on page 88.

San Mateo County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	20	87%	14	78%	5	28%
	B	1	4%	2	11%	3	17%
	C	0	0%	0	0%	1	6%
	D	1	4%	0	0%	5	28%
	F	1	4%	2	11%	4	22%
	Total #:	23		18		18	
5 Yr. Average	A		84%		73%		48%
	B		9%		10%		14%
	C		3%		6%		11%
	D		2%		4%		6%
	F		2%		7%		20%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

For additional water quality information:

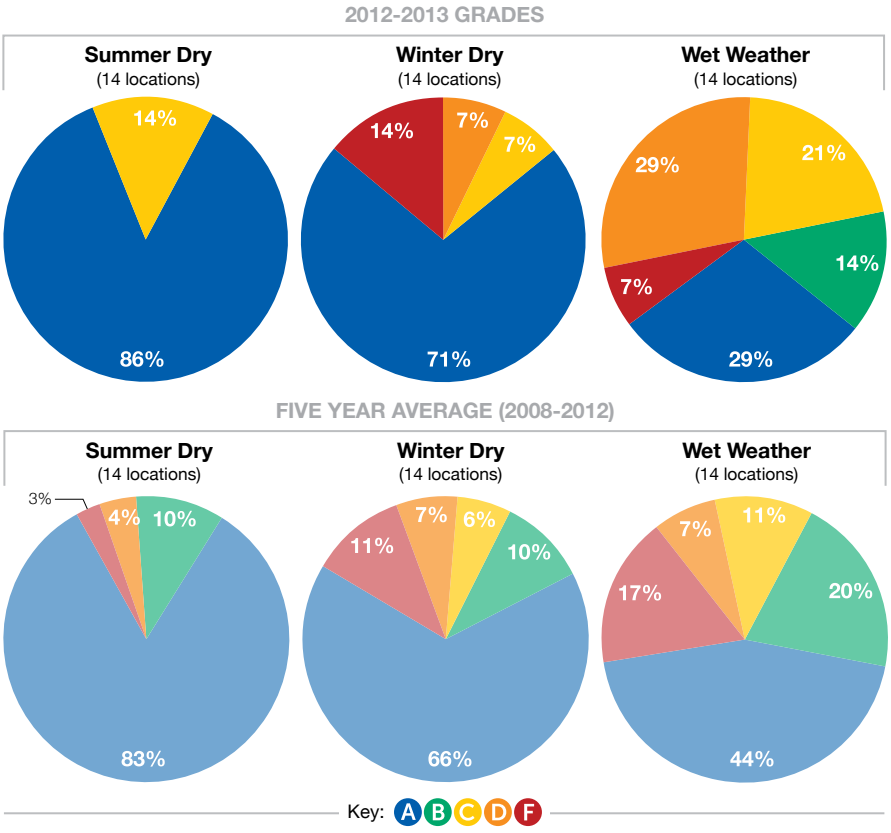
San Mateo County Environmental Health
www.smchealth.org/environ/beaches

Sewage Spill Summary

There were three known sewage spills that led to beach closures in San Mateo County this past year. Both Lakeshore Park and Aquatic Park on the Marina Lagoon were closed on Dec. 3, 2012 due to a sewer overflow. Lakeshore Park was re-opened on Jan. 2, 2013 and Aquatic Park remained closed through the end of the timeframe of this report (re-opened May 1, 2013) due to lingering elevated bacteria levels. The beach at the end of West Point Avenue in outer Pillar Point Harbor was closed for 13 days beginning on Dec. 27, 2012 due to a sewage spill at West Point and Princeton Avenue. Also in outer Pillar Point Harbor, the beach at Capistrano Beach was closed as a precaution on March 19, 2013 for five days due to elevated bacteria levels that the health department has investigated as potentially impacted by a sewage release.

San Francisco County

FIGURE 2-9: SAN FRANCISCO COUNTY BEACHES



The County of San Francisco, in partnership with the San Francisco Public Utilities Commission, maintained its weekly monitoring program for ocean and bay shoreline locations this past year. Fourteen locations were monitored 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 this past year during summer dry weather were very good, though lower than in our last report, with 12 of 14 (86%) monitoring locations receiving A or B grades this past year, compared to 100% the year before. The two locations that scored lower than a B grade during summer dry weather were at Baker Beach Lobos Creek (C grade) and Candlestick Point Windsurfer Circle (C grade); the latter earning the No. 9 spot on the list of statewide Beach Bummers in this year's report. The location's adjacent storm drain serves the stadium area and may be contributing to the beach's poor water quality.

Winter dry weather water quality was fair with 10 of 14 (71%) of locations receiving A or B grades (see Figure 2-9). Poor grades in San Francisco County during winter dry weather were at: Aquatic Park Beach 211 Station (F grade), Candlestick Point Windsurfer Circle (F grade), and Candlestick Point Sunnydale Cove (D grade).

The percentage of A and B grades during wet weather water quality in San Francisco County was only 43% this past year (down from 79% in our last report) and 21% below the county's five-year average.

A complete list of grades for San Francisco County's beaches can be found in Appendix C on page 89.

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 graduated levels of treatment to 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 occasionally 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 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.

FIGURE 2-10: COMPARISON OF OCEAN AND BAY SIDE WATER QUALITY

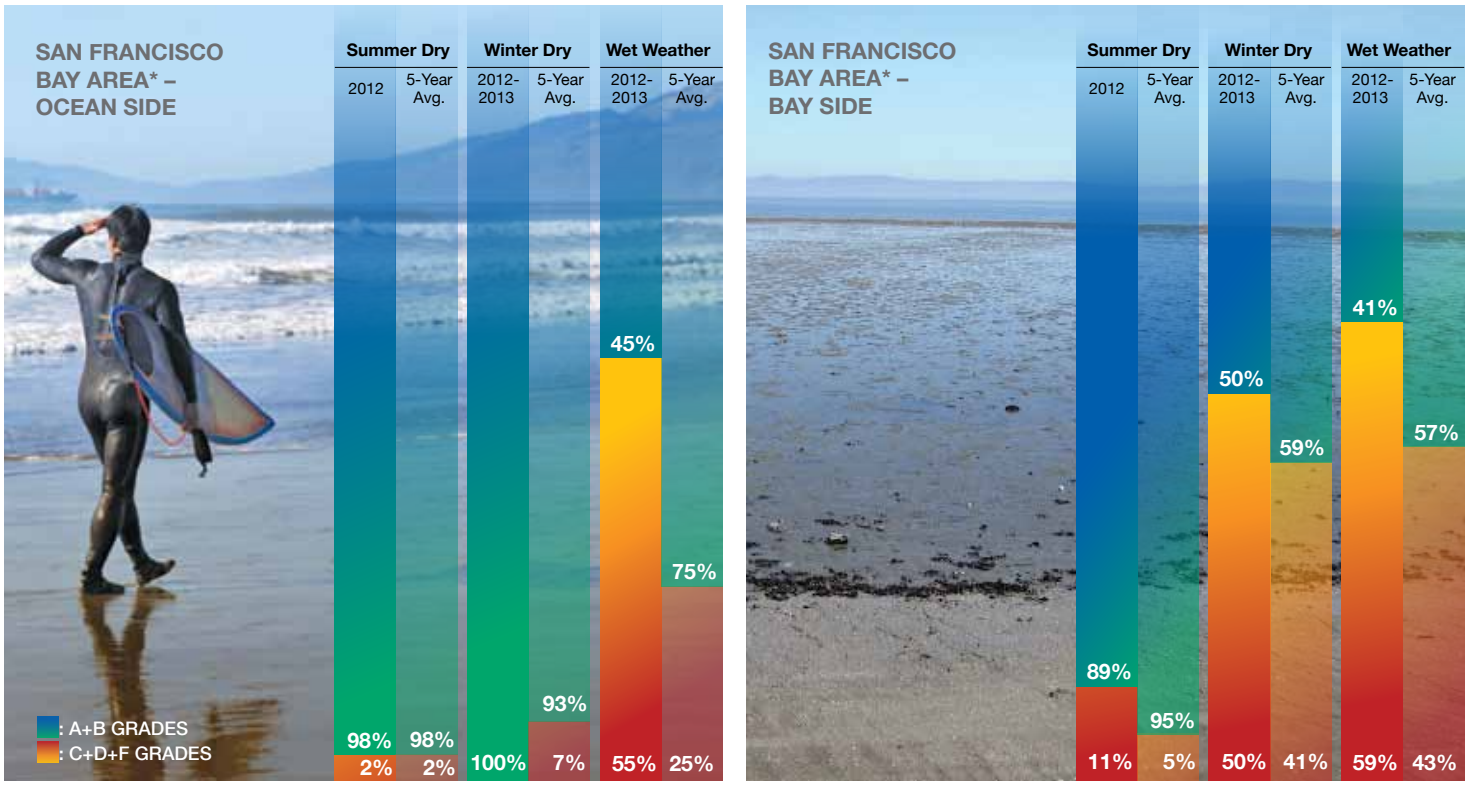
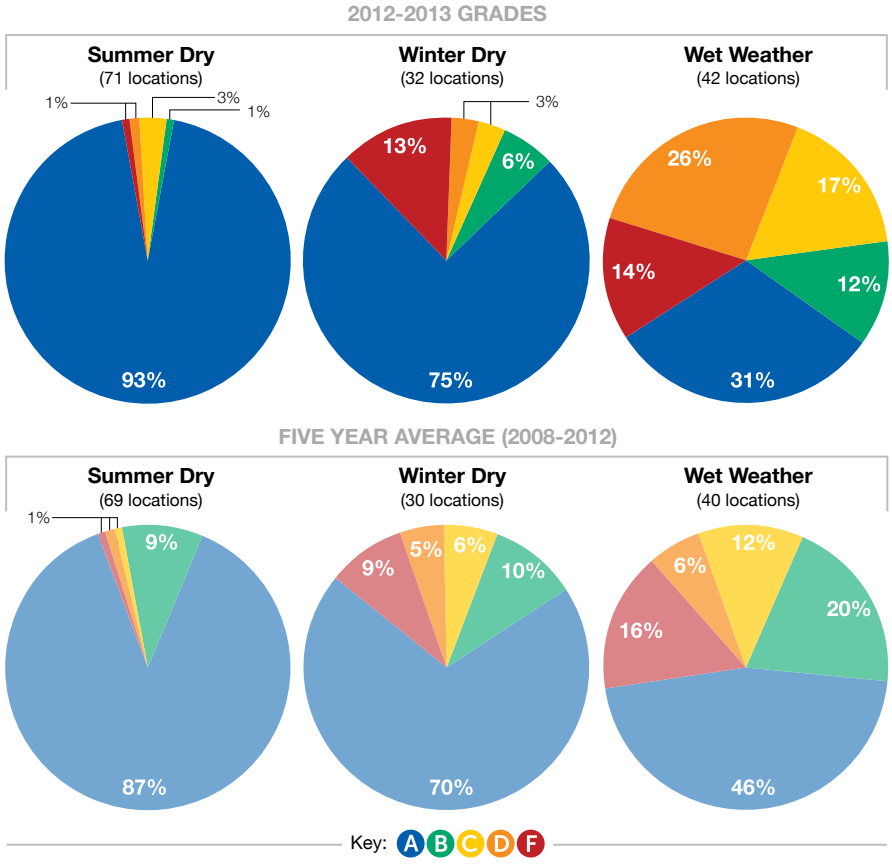


FIGURE 2-11: SAN FRANCISCO BAY AREA* BEACHES



Because of the CSS, San Francisco's ocean 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.

Combined Sewer Discharge Summary

This past year, treated CSDs occurred during heavy rainfall on 10 separate dates in San Francisco. Three of the CSDs affected Baker Beach and China Beach; eight occurred at Ocean Beach and Fort Funston; and one occurred at Candlestick Point State Recreation Area.

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

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

East Bay: Contra Costa & Alameda Counties

Contra Costa & Alameda Counties Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	10	100%			4	40%
	B	0	0%			0	0%
	C	0	0%			3	30%
	D	0	0%			2	20%
	F	0	0%			1	10%
	Total #:	10				10	
5 Yr. Average	A		77%		75%		44%
	B		23%		8%		31%
	C		0%		8%		16%
	D		0%		0%		2%
	F		0%		8%		7%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

For additional information:

East Bay Regional Park District
www.ebparks.org

Crown Beach, Windsurf Corner

Summer Dry	Winter Dry	Wet Weather
A	n/a	A+

The East Bay Regional Park District consistently monitored 10 shoreline locations again this year, including two in Contra Costa County and eight in Alameda County. Samples were collected weekly during the summer dry weather time period and about twice a month throughout the winter – not frequently enough to receive a winter dry grade in this report.

All monitoring locations in the East Bay received excellent water quality grades this past summer with all 10 (100%) locations receiving A grades. Three East Bay monitoring locations earned poor water quality grades during wet weather: Keller Beach North Beach (D grade), Crown Beach at 2001 Shoreline Drive (D grade) and Crown Beach Bird Sanctuary (F grade).

A complete list of grades for Contra Costa and Alameda Counties beach monitoring locations can be found in Appendix C on pages 89 and 90.

Sewage Spill Summary

On Aug. 4, 2012 the East Bay Regional Park District closed a 1,000 foot stretch of Crown Beach for one day as a precaution due to an approximately 1,350 gallon sewage release into the drainage system that outlets at northern Crown Beach.

Marin County

Marin County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	24	100%				
	B	0	0%				
	C	0	0%				
	D	0	0%				
	F	0	0%				
	Total #:	24					
5 Yr. Average	A		97%				
	B		3%				
	C		0%				
	D		0%				
	F		0%				

= Number of Monitoring Locations
*State AB411 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

Marin County's water quality monitoring program gathered data during the summer from 24 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 grades during the summer dry weather time period.

A complete list of grades for Marin County's beach monitoring locations can be found in Appendix C on page 90.

Sewage Spill Summary

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

Sonoma County

Sonoma County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	7	100%			2	100%
	B	0	0%			0	0%
	C	0	0%			0	0%
	D	0	0%			0	0%
	F	0	0%			0	0%
	Total #:	**7**				**2**	
5 Yr. Average	A	5	93%	2	92%	2	75%
	B	0	0%	0	0%	1	19%
	C	0	3%	0	0%	0	0%
	D	0	0%	0	0%	0	0%
	F	0	3%	0	8%	0	6%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

The County of Sonoma Department of Health Services monitored seven locations this past year from as far upcoast as Gualala Regional Park Beach to a downcoast location at Doran Regional Park Beach in Bodega Bay. Samples were collected 25 yards north or south of the mouth of a storm drain or creek throughout the summer.

Stillwater Cove Regional Park Beach and Campbell Cove State Park Beach (the only Sonoma County locations to be monitored year-round) were monitored about twice per month throughout the winter but not frequently enough to earn a grade for the winter dry time period in this report.

Sonoma County earned excellent water quality grades this year with seven monitoring locations receiving A grades during summer dry and wet weather (both better than the five-year average of 93% and 94%, respectively).

A complete list of grades for Sonoma County's beach monitoring locations can be found in Appendix C on page 90.

For additional water quality information:

County of Sonoma Department of Health Services
www.sonoma-county.org/health/services/ocean.asp

Mendocino County

Mendocino County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	3	100%				
	B	0	0%				
	C	0	0%				
	D	0	0%				
	F	0	0%				
	Total #:	**3**					
5 Yr. Average	A		95%				
	B		0%				
	C		0%				
	D		0%				
	F		5%				

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

The Mendocino County Division of Environmental Health monitored three locations at least weekly during summer dry weather this past year: Pudding Creek ocean outlet, Big River near Pacific Coast Highway and Van Damme State Park at the Little River. All three beaches received an A grade for the summer dry weather time period. Three other beaches were monitored sporadically throughout last summer, but not consistently enough to be included in this report. This monitoring program is funded solely by the Environmental Protection Agency's National BEACH Program. For more information about the EPA's proposed elimination of federal funding for water quality programs, see page 53.

A complete list of grades for Mendocino County's beach monitoring locations can be found in Appendix C on page 91.

For additional water quality information:

Mendocino County Division of Environmental Health
www.co.mendocino.ca.us/hhsa/chs/eh/index.htm

Humboldt County

Humboldt County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	4	80%				
	B	1	20%				
	C	0	0%				
	D	0	0%				
	F	0	0%				
	Total #:	5					
5 Yr. Average	A		81%				40%
	B		12%				33%
	C		4%				20%
	D		0%				7%
	F		4%				0%

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

The County of Humboldt Division of Environmental Health monitored five locations this past year from April through October. Water quality samples at outlet beaches were taken directly in the mixing zone (point zero). This monitoring program is funded solely by the Environmental Protection Agency's National BEACH Program. For more information about the EPA's proposed elimination of federal funding for water quality programs, see page 53.

Humboldt County earned very good water quality grades this past year with all five monitoring locations receiving A or B grades, besting the county's five-year average of 92% A or B grades. Monitoring locations were not sampled frequently enough during winter to receive grades for any other time period.

A complete list of grades for Humboldt County's beach monitoring locations can be found in Appendix C on page 91.

For additional water quality information:

County of Humboldt Department of Health & Human Services Division of Environmental Health
www.co.humboldt.ca.us/health/envhealth/beachinfo

Del Norte County

Del Norte County Grades

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	1	100%	1	100%	1	100%
	B	0	0%	0	0%	0	0%
	C	0	0%	0	0%	0	0%
	D	0	0%	0	0%	0	0%
	F	0	0%	0	0%	0	0%
	Total #:	1		1		1	
5 Yr. Average	A	–		–		–	
	B	–				–	
	C			–		–	
	D	–		–		–	
	F	–		–		–	

NO DATA AVAILABLE

= Number of Monitoring Locations
*State AB411 monitoring April thru October
Percentages may not add up to 100 due to rounding.

A single monitoring location (Battery Point Lighthouse) in Del Norte County earned A grades for all three time periods this past year. No other locations in Del Norte County were sampled frequently enough (at least weekly) to receive grades in this report.

Grades for Del Norte County's beach monitoring location can be found in Appendix C on page 91.

For additional water quality information:

County of Del Norte Environmental Health Division
www.co.del-norte.ca.us/departments/community-development-department/environmental-health-division

Beach Report Card for 2012-2013: Oregon

OREGON (OVERALL)

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	11	100%	–		10	91%
	B	0	0%	–		1	9%
	C	0	0%	–		0	0%
	D	0	0%	–		0	0%
	F	0	0%	–		0	0%
	Total #:	11				11	

For additional water quality information:
Oregon Health Authority
http://public.health.oregon.gov/HealthyEnvironments/Recreation/BeachWaterQuality/Pages/index.aspx

Clatsop County Grades

2012-2013	A	8	100%	–		7	88%
	B	0	0%	–		1	13%
	C	0	0%	–		0	0%
	D	0	0%	–		0	0%
	F	0	0%	–		0	0%
	Total #:	8				8	

Tillamook County Grades

2012-2013	A	3	100%	–		3	100%
	B	0	0%	–		0	0%
	C	0	0%	–		0	0%
	D	0	0%	–		0	0%
	F	0	0%	–		0	0%
	Total #:	3				3	

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

The State of Oregon's beach monitoring locations exhibited excellent water quality (all A grades) during summer dry weather this past year. Oregon's Department of Human Services and Department of Environmental Quality collectively monitored 16 locations throughout the state; however, only 11 ocean water sampling sites were sampled frequently enough (at least weekly) to receive a grade in this report. Oregon monitors water quality solely testing for Enterococcus bacteria, which differs from California's three indicator bacteria monitoring protocol. Oregon's simpler methodology can be found in Appendix A2.

Wet weather water quality grades this past year were also excellent with 10 of 11 beaches receiving A grades; one location (Tolovana State Park Beach @ Chisana Creek) earned a B grade. 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.

Without federal BEACH Act funding, Oregon's beach program is in jeopardy, as the Oregon Health Authority will likely be unable to fund the program. Unlike some other states, Oregon's beach program relies entirely on federal funds. Oregon may no longer have a beach program beyond the 2013 sampling season. For more information about the EPA's proposed elimination of federal funding for water quality programs, see page 53.

A complete list of grades for Oregon's beach monitoring locations can be found in Appendix C on page 95.

Beach Report Card for 2012-2013: Washington

WASHINGTON (OVERALL)

		Summer Dry*		Winter Dry		Wet Weather	
		#	%	#	%	#	%
2012-2013	A	162	93%	15	100%	133	75%
	B	3	2%	0	0%	14	8%
	C	2	1%	0	0%	7	4%
	D	1	1%	0	0%	10	6%
	F	6	3%	0	0%	13	7%
	Total #:	174		15		177	

For additional water quality information:

State of Washington's Department of Ecology
www.ecy.wa.gov/programs/eap/beach/index.html

Clallam County Grades

2012-2013	A	24	100%	15	100%	27	100%
	B	0	0%	0	0%	0	100%
	C	0	0%	0	0%	0	0%
	D	0	0%	0	0%	0	0%
	F	0	0%	0	0%	0	0%
	Total #:	24		15		27	

Grays Harbor County Grades

2012-2013	A	9	100%	–		9	100%
	B	0	0%	–		0	0%
	C	0	0%	–		0	0%
	D	0	0%	–		0	0%
	F	0	0%	–		0	0%
	Total #:	9				9	

Island County Grades

2012-2013	A	6	67%	–		3	33%
	B	1	11%	–		0	0%
	C	0	0%	–		0	0%
	D	1	11%	–		1	11%
	F	1	11%	–		5	56%
	Total #:	9				9	

Jefferson County Grades

2012-2013	A	9	100%	–		9	100%
	B	0	0%	–		0	0%
	C	0	0%	–		0	0%
	D	0	0%	–		0	0%
	F	0	0%	–		0	0%
	Total #:	9				9	

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

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 the Environmental Protection Agency's (EPA) 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 only, 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 excellent water quality during summer dry weather with 95% A or B grades. Washington monitored a total of 81 beaches with 177 monitoring locations (typically each beach contains multiple 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; 15 of which were monitored frequently enough to be included in this report. Based on the number of sample sites per mile of beach, Washington State has one of the most robust beach monitoring programs in the country. Nine monitoring locations (5%) received fair to poor water quality grades during summer dry weather throughout the state (2 C grades, 1 D grade and 6 F grades).

Wet weather water quality at Washington State water quality monitoring locations was good with 147 of 177 (83%) locations receiving A or B grades. Oak Harbor City Beach Park (west) and Pomeroy Park's Manchester Beach (north) both improved from F grades in 2010 and 2011 to A grades in this year's report. However, this is the third summer Freeland County Park Holmes Harbor (east) received an F grade for summer dry weather.

Of the 15 locations regularly monitored during winter dry weather, all locations re-

King County Grades

2012-2013	A	20	95%	—		18	86%
	B	0	0%	—		1	5%
	C	1	5%	—		2	10%
	D	0	0%	—		0	0%
	F	0	0%	—		0	0%
	Total #:	21				21	

Kitsap County Grades

2012-2013	A	27	100%	—		19	70%
	B	0	0%	—		3	11%
	C	0	0%	—		3	11%
	D	0	0%	—		2	7%
	F	0	0%	—		0	0%
	Total #:	27				27	

Mason County Grades

2012-2013	A	12	100%	—		12	100%
	B	0	0%	—		0	0%
	C	0	0%	—		0	0%
	D	0	0%	—		0	0%
	F	0	0%	—		0	0%
	Total #:	12				12	

Pierce County Grades

2012-2013	A	27	100%	—		18	67%
	B	0	0%	—		8	30%
	C	0	0%	—		1	4%
	D	0	0%	—		0	0%
	F	0	0%	—		0	0%
	Total #:	27				27	

Skagit County Grades

2012-2013	A	3	100%	—		0	0%
	B	0	0%	—		0	0%
	C	0	0%	—		1	33%
	D	0	0%	—		0	0%
	F	0	0%	—		2	67%
	Total #:	3				3	

Snohomish County Grades

2012-2013	A	16	89%	—		12	67%
	B	1	6%	—		0	0%
	C	0	0%	—		0	0%
	D	0	0%	—		4	22%
	F	1	6%	—		2	11%
	Total #:	18				18	

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

ceived A grades for the time period.

A complete list of grades for Washington State beach monitoring locations can be found in Appendix C on page 92.

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 Foundation 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.

A social marketing and public education campaign was launched, geared towards teaching campers and beach users source reduction activities, as well as physical removal of wildlife feces from the wetland. The collaborative education project was developed by the Whatcom County Marine Resources Council, Whatcom County Health Department, Washington State Parks, Washington BEACH program and Surfrider.

Last summer, interns collected camper survey information and educated the public about the need to secure food as well as about general raccoon behavior. As the source correction actions are implemented, follow-up monitoring is on-going to evaluate 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 2012 Washington experienced six raw sewage spills (more than 295,000 gallons, total) that resulted in beach closures. Those spills were responsible for closures (typically lasting one week or less) at nine beaches. The largest event was a sewage spill at

Seahurst Park in King County that occurred due to faulty equipment at a sewage pump station. As a result, approximately 200,000 gallons of raw sewage spilled to nearby water.

Since 2004, Washington BEACH Program has posted 60 beaches with 142 advisories or closures due to sewage and combined sewer overflows. Most of the spills occur during the winter months.

Combined Sewer Overflows

Combined sewer and stormdrain (CSS) systems are located in older communities throughout the Puget Sound. CSSs 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. These Combined Sewer Overflows (CSOs) are a concern for beach managers 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 a 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 CSSs managed by the City. Two popular swimming beaches: Sail and Paddle Park Beach 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 volume of CSOs discharged to the Harbor. One large storm event in December 2012 caused CSO discharges larger than one million gallons, resulting in a swimming advisory at Hollywood Beach for seven days.

Thurston County Grades

2012-2013	A	3	100%	–		3	100%
	B	0	0%	–		0	0%
	C	0	0%	–		0	0%
	D	0	0%	–		0	0%
	F	0	0%	–		0	0%
	Total #:	3				3	

Whatcom County Grades

2012-2013	A	6	50%	–		3	25%
	B	1	8%	–		2	17%
	C	1	8%	–		0	0%
	D	0	0%	–		3	25%
	F	4	33%	–		4	33%
	Total #:	12				12	

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

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

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

Dana Point Baby Beach (summer 2012)

Buoy Line	Swim Area	East End
B	B	C

2012-2013 IMPACTS & NEWS

Heal the Bay's first Beach Report Card published in 1991 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 by numerous stakeholders to reduce urban runoff pollution and sewage spills at our local beaches. Beachgoers throughout the west coast have come to rely on our weekly grades and this annual report as vital public health protection tools.

The Clean Beach Initiative

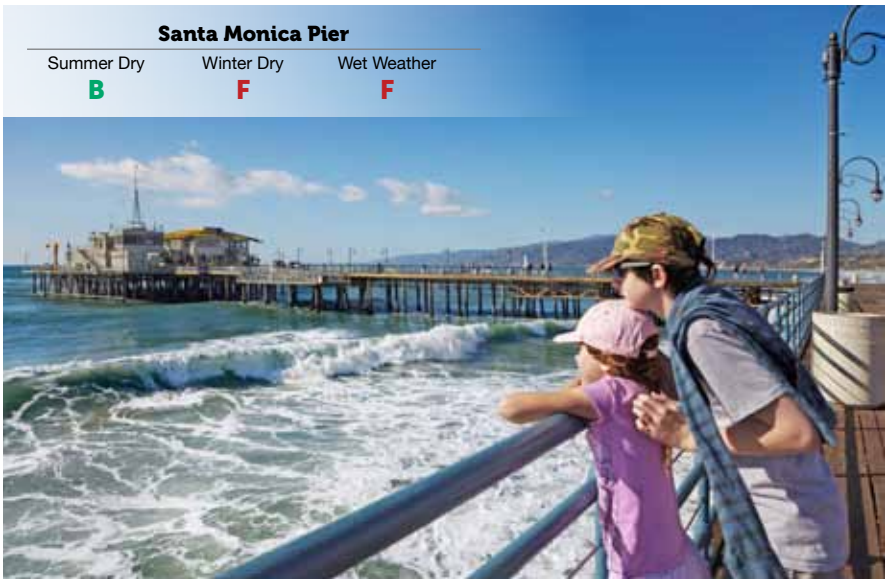
In 2000, then Governor Gray Davis and Assemblywoman Fran Pavley proposed allocating $34 million from the state budget towards protecting and restoring the health of California's beaches. This funding became known as the Clean Beach Initiative (CBI). To date, more than $100 million has been allocated 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. Completed CBI projects have already made a big difference towards improving water quality at chronically polluted beaches.

CBI UPDATE: Santa Monica Pier

A combination of CBI and Measure V funding (approved by voters in 2006) has led to beach water quality improvement projects in Santa Monica. One such project, the Pier Storm Drain Improvement 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 and adding their fecal bacteria to the already problematic water quality. This netting was completed in February 2010. Since the spring of 2010, water quality at the beach south of the pier had improved dramatically. However, water quality at the pier this past winter was poor (F grade), prompting Heal the Bay to conduct a site visit where we discovered large rips in the netting under the pier. It was evident that the birds were once again nesting under the pier, and most likely triggering the recent poor water quality grades. The City of Santa Monica is currently working on making the appropriate repairs. Santa Monica should develop a routine maintenance plan for the pier to ensure this does not happen in the future. We look forward to seeing improved water quality at the pier after the repairs are made.



CBI UPDATE: Santa Monica Bay Beaches

Last 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 American Recovery and Reinvestment Act [ARRA] funds). The project diverts runoff from eight storm drains along PCH into the Coastal

Avalon Beach, north or pier

Summer Dry	Winter Dry	Wet Weather
F	n/a	n/a

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. All eight low flow diversion (LFD) beaches received A or B grades for the second year in a row during both summer and winter dry weather, which is a great accomplishment. We hope this serves as a model for water quality improvement projects at other beaches that are highly impacted by urban runoff.

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 the majority of the concrete pipe are scheduled to be completed by December 2013.

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 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 12 out of the last 13 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 results will be published before the end of 2013.

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. Then, 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.

Since the issuance of the Order, the City of Avalon has spent $5.7 million on improvements to its collection system. The entire sewer system was cleaned and nearly 60% of the total lines were rehabilitated or replaced. The sewer system has also been mapped using GIS, to allow for imaging, monitoring, and tracking of problems. The GIS mapping will be used to identify needed repairs and maintenance, and will support an aggressive root control program.

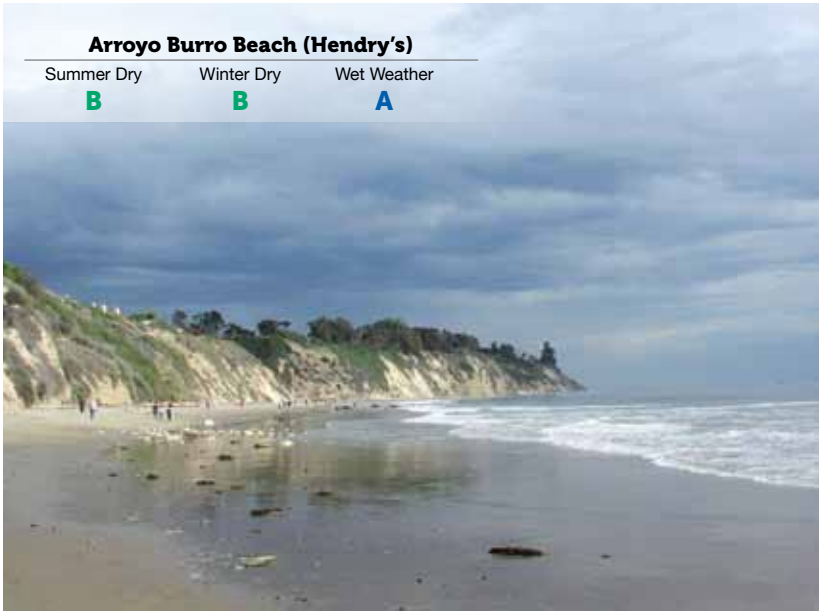
In addition, Avalon is now focusing on improving sewer laterals, which includes annually inspecting public and private facilities along the Bay for cracks and other problems. By the end of June 2013, the city plans to broaden its private sewer lateral program which will assist in the inspection and repair of private sewer laterals in commercial areas and eventually all residential areas.

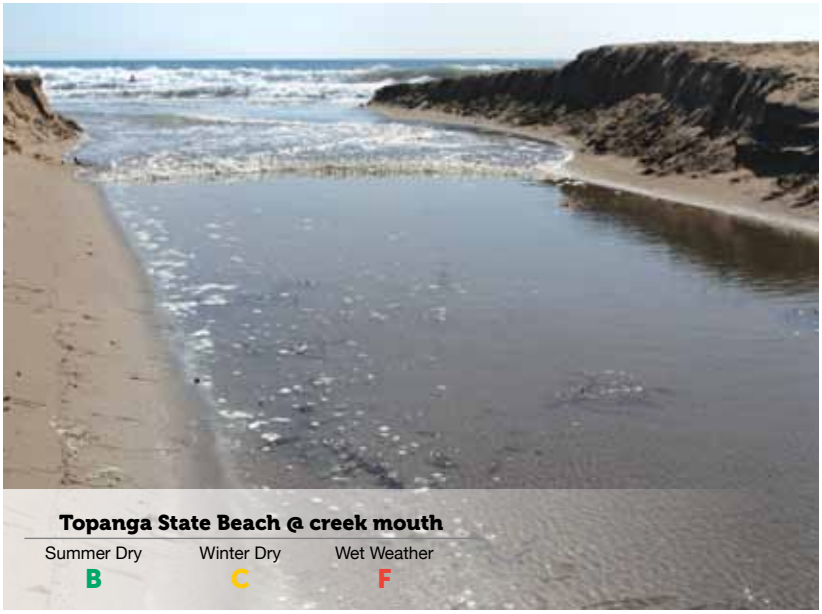
In an attempt to control non-point sources of bacteria, specifically bird droppings, Avalon hired a falconer.

Falcons discourage birds from congregating on buildings, wires, boats and other surfaces, which in turn reduces the amount of bird droppings throughout the beach area. Measures are also underway to secure the underside of the pier to inhibit birds from roosting.

City crews have also begun cleaning the wrack line daily and began implementing new wash down practices for boats, sidewalks, buildings, piers and other similar surfaces, in order to control polluted runoff. Currently, Avalon is developing a new storm water management and education program and plans to enroll in the new Phase II Storm Water Permit by July 1, 2013.

Although Avalon has made numerous improvements this year towards improving beach water quality and raising public health awareness, additional time and work may be needed before Avalon's beach water quality shows consistent improvement. However, these actions are very positive steps towards improving Avalon's chronically polluted beach water. Heal the Bay is encouraged by Avalon's current focus on improving water quality grades and anticipates seeing beach water quality improvement in the coming few years.





Source Identification Protocol Project (SIPP)

The $4 million Source Identification Protocol Project (SIPP) with researchers from Stanford University, UC Santa Barbara, UC Los Angeles, the United States Environmental Protection Agency (USEPA) Office of Research and Development and SCCWRP is in its third and final year. The researchers are developing and implementing sanitary survey/source tracking protocols based on the study of four of California's most polluted beaches: 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 project are to:

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

The final product will be a source tracking protocol manual that will focus on using a tiered approach to identify microbial pollution sources at chronically polluted beaches. The tool has been sorely needed since the passage of Assembly Bill 538 (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. A Draft SIPP manual will be submitted in May 2013 for review and comments by the Clean Beach Task Force (CBTF), with researchers having until January 2014 to complete the final manual.

TABLE 3-1: MAJOR CBI PROJECTS

County	Beach location(s)	Project type
Mendocino County	Pudding Creek Beach	Sewer
San Francisco County	Aquatic Park Beach	Diversion
	San Francisco Bay Beaches	Sewer upgrades
San Mateo County	Montara State Beach	Sewer
	Pacifica State Beach	Diversion
	Fitzgerald Marine Reserve	Sewer
Santa Cruz County	Main, Cowell and Seabright Beaches	Diversion
	Aptos Beach	Sewer
	New Brighton and Seacliff Beaches	Sewer
	Capitola Beach	Sewer
Monterey County	Monterey State Beach	Diversion
	Monterey Bay Beach	Diversion
	Lovers Point Beach	Diversion
San Luis Obispo	Pismo State Beach	Sewer upgrades
Santa Barbara County	Arroyo Burro and East Beaches	Diversion
	East Beach and Mission Creek	Treatment Facility
	South Coast Beach Communities	Sewer upgrades
Ventura County	Kiddie and Hobie Beach	Diversion/circulation
	Promenade Park Beach	Diversion
Los Angeles County	Will Rogers State Beach	Diversion
	Santa Monica Bay Beaches	Diversions
	Santa Monica Pier	Pier improvements
	Avalon Bay Beaches	Sewer upgrades
	Venice Beach	Diversion
	Hermosa Beach	Diversion
	Paradise Cove	Treatment Facility
	Surfrider Beach/Malibu Lagoon	Diversion
	Surfrider Beach/Malibu Lagoon	Treatment Facility
	Mothers Beach, Marina del Rey	Circulation
	Dockweiler Beach	Diversion
	Manhattan Beach	Diversion
	Redondo Beach	Pier Improvements
	Redondo Beach	Diversion
	Inner Cabrillo Beach	Circulation
Orange County	Laguna Beach and Laguna Main Beach	Diversion
	Capistrano County Beach	Sewer upgrades
	Baby Beach, Dana Point	Source Abatement
	Salt Creek and Monarch Beaches	Treatment Facility
San Diego	Imperial Beach	Diversion
	Mission Bay	Source Abatement
	Buccaneer Beach and Loma Alta Creek Lagoon	Treatment Plant
	Moonlight Beach	Treatment Facility
	Coronado Beach	Diversion
Statewide	Source Identification Protocol Project (SIPP)	

Major CBI Projects

At the left is a table listing the major CBI project types and locations that have been funded in order to achieve statewide beach water quality improvements:

Currently, $50 million in CBI funds is available for beach water quality research and implementation projects. The CBTF recommended that up to $10 million be allocated towards research projects, with the remainder to be spent on implementation projects. Seven implementation and four research projects have been recommended by the CBTF, with more projects likely to be moved forward following the next solicitation round closing in late May 2013. The CBTF recommended projects (both implementation and research) are still waiting final State Board approval. Approved project applicants are anticipated to receive Preliminary Funding Commitments (PFCs) in the next few months, followed by official grant agreements. Additional projects will continue to be subsidized until CBI funding is exhausted.

Predictive Beach Modeling

In January 2012, Heal the Bay and Stanford University were awarded CBI funds to implement a predictive beach water quality modeling study. Heal the Bay had been anxiously anticipating this project for over four years. Test models will first be developed for 25 of California's most polluted beaches that were chosen to represent impaired waters up and down the coast from San Diego to San Francisco.

We are half-way through the two-year project and will begin designing and testing the predictive models this summer for potential preemptive public notification of water quality conditions. Heal the Bay and Stanford have already begun analyzing historical fecal indicator bacteria (FIB) densities and oceanic and atmospheric data in order to develop the statistical models. The efficacy of the models as predictive water quality tools will be explored this summer and fall. 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.

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, there are numerous TMDLs in California that focus on bacteria.

TABLE: 3-2:
SUMMER 2012 LOS ANGELES COUNTY BEACHES WITH MORE THAN 10 EXCEEDANCE DAYS

Violations	Location
113	Cabrillo Beach harborside @ restrooms
66	Redondo Municipal Pier, south side
50	Cabrillo Beach harborside @ boat launch
45	Malibu Pier, 50 yards east
41	Santa Monica Municipal Pier
38	Marina del Rey Mothers' Beach playground area
37	Surfrider Beach lagoon outlet
35	Topanga State Beach @ creek mouth
25	Marina del Rey, Mothers' Beach lifeguard tower
24	Ballona Creek mouth
13	Paradise Cove @ Ramirez Canyon Creek
13	Redondo State Beach @ Topaz Street, north of jetty
13	Redondo Municipal Pier 100 yards south
11	Solstice Canyon Creek mouth
11	Escondido Creek mouth

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 allowed only three violations during the winter dry period (from November 1 to March 31) 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. A 25% reduction is required by 2013. Heal the Bay's analysis of summer dry weather and winter dry weather indicates hundreds of exceedances of these standards (see table 3-2. Heal the Bay plans on doing a thorough assessment of TMDL compliance at beaches in the upcoming year.

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 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. Wet weather exceedance requirements under the fecal bacteria TMDLs for Santa Monica Bay, Mother's Beach and Los Angeles Harbor must be met by July 15, 2021.

Los Angeles Regional TMDL reopeners

In March 2012, the Regional Board reopened some bacteria TMDLs in the Los Angeles region to reexamine certain technical issues based on data collected and analyzed. Of note, the original TMDL compliance dates were not in question during the reopener. The following TMDLs were reconsidered: 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.

We were encouraged that the Regional Board's final amendments did not include sub-seasons and preserved a rolling 30-day geometric mean period. Calculating a static (non-rolling) geometric mean per sub-season

would inhibit the ability to track chronic pollution problems, as well as public health protection of beachgoers on a day to day basis. However, the selected reference beach location was not adequately reevaluated. Leo Carrillo was originally selected based on data collected at distance (not at point zero). Based on Heal the Bay's updated analyses, we believe another reference beach would be more representative of reference conditions. Despite this remaining concern, the State Board approved the amendments on March 19, 2013.

Avalon Beach TMDL

In February 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 by their 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.

Long Beach TMDL

In March 2012, the USEPA and the Los Angeles 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 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; up to 20 years is far too long to wait for clean beaches. 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. However, Long Beach's water quality will continue to be directly tied to rainfall amounts and runoff volumes from the Los Angeles River. We are encouraged that a Bacteria TMDL is finally in place, and look forward to seeing continued improvements to Long Beach's beach water quality.

San Pedro Creek and Pacifica State Beach TMDL

On March 19, 2013 the State Board approved a Bacteria TMDL for San Pedro Creek and Pacifica State Beach in San Mateo County. While we support setting numeric limits for bacteria in order to meet water quality objectives, we are concerned that dischargers will not be held fully responsible for meeting these limits. According to the final Basin Plan Amendment the Regional Board may establish permit requirements based on the implementation of BMPs in lieu of numeric limits. This approach does not ensure compliance with final TMDL limits, established to achieve water quality standards and protect beneficial uses. We are disappointed that the Regional Board and State Board took this approach, as dischargers should be held responsible for meeting numeric limits and water quality standards.

Doheny State Beach - North Beach

Summer Dry	Winter Dry	Wet Weather
D	F	D

Major Beach News

- EPA Releases Recreational Water Quality Criteria
- Ventura QMRA
- EPA Slashes Federal Beach Program Funding
- Funding California's Beach Program
- Clean Water, Clean Beaches Measure
- End of EPA's TMDL Consent Decree
- Los Angeles County Municipal Storm Water Permit, upcoming Long Beach MS4
- Requests for TSOs
- Rapid Methods Special Study at Los Angeles County Beaches
- UAA
- 885 Septic Regulations

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 existing criteria at the time were developed in 1986. The EPA failed to meet its mandatory 2005 deadline to develop the new standards. In response, the Natural Resources Defense Council (NRDC) took legal action and won an important summary judgment ruling on their BEACH Act lawsuit in April 2008. As a result, the NRDC and the EPA reached a settlement later that year, which led to the EPA agreeing to complete the updated water quality criteria within a set timeframe and conduct 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.

Heal the Bay worked closely with EPA during the criteria development process and advocated for improved and more protective standards. When the new beach water quality criteria were released last November, we were very disappointed with the outcome. While the final criteria were much improved over the draft proposal, there were some major steps backwards from the 1986 criteria. For instance, the new criteria allow for states to choose between two sets of standards based on two different estimated illness rates. Allowing states to determine their own "acceptable illness rates" allows for major inconsistencies in public health protection among states. Furthermore, the less relaxed standard of the two is clearly less protective of public health, although the EPA claims either set of criteria are protective of public health.

The EPA also missed a major opportunity to incentivize the use of rapid methods. Standard testing of water samples now takes between 18-24 hours to process, meaning that the public is getting day-old water quality information. Although the EPA approved a rapid method that would get us closer to real-time measurement, this method cannot be used as a stand-alone process under the new criteria. In other words, duplicate sample methods would have to be run simultaneously in order to use rapid methods. This would dramatically increase the cost of monitoring programs and leave little monetary incentive for states wanting to move forward with their use.

The new criteria also allow for alternative criteria, such as QMRA at certain sites. QMRA allows agencies to as-

sess potential human health risks based strictly on the presence of different fecal sources, including humans, birds, cows, and dogs in the beach water. However, much research has yet to be conducted on illness rates and risk associated with specific sources. The EPA is expected to release alternative criteria guidance documents in the fall of 2013. Heal the Bay recommends QMRA only be used subsequent to BMP implementation measures and only pursued at non-urbanized beach locations with no known human sources or influences. In addition, we recommend that beach managers identify and eliminate all potential bacteria sources prior to QMRA implementation.

EPA's criteria also introduce an alternate measurement of illness rates, called Beach Action Values (BAVs), which are optional thresholds for states to use for public notification purposes. For example, if a water sample exceeds the maximum BAV, beach-goers will be notified of the potential health risks. Although EPA describes BAVs as "conservative and precautionary," they are not included in the formal recommended criteria so they may or may not be implemented by states.

Overall, we are very disappointed that EPA missed a rare opportunity, not only to improve the nearly 30-year old criteria but also to develop consistent water quality standards among states. Heal the Bay plans on working with the State Board in order to uphold California's current water quality criteria to ensure public health protection is maintained.

Ventura QMRA

Anticipating EPA's new criteria, which now include QMRA as an alternative criteria development option, a QMRA study was initiated last summer at Kiddie and Hobie Beaches in Ventura County. SCCWRP received funding through supplemental environmental project (SEP) funds from the Los Angeles Regional Board and collaborated with USEPA and Ventura County Watershed Protection. Heal the Bay had major concerns regarding the proposed study location from the start, as our recommended QMRA criteria (non-urbanized, remote beach location with no known human sources) were not utilized to select a beach location. In fact Kiddie and Hobie Beaches are urban impacted, high-use beaches. The QMRA study started with source tracking and identification, to rule out the presence of human sources (in order to calculate specific pathogen loads). However, human markers were detected in two-thirds of all samples in the entire study. Appropriately, this discovery resulted in the discontinuation of QMRA at these beaches. It was later determined, a faulty sewer main located near the beach was likely the source of the identified human markers. The damaged stretch of sewer main is scheduled to be replaced this spring, with additional sampling post-construction to ensure all human sources are eliminated. Heal the Bay will continue to advocate for strict QMRA implementation guidelines in order to avoid future inappropriate QMRA locations.

EPA Proposed Eliminating Federal BEACH Program Funding

In April 2013, EPA proposed the complete elimination of the BEACH Grant Program, a key initiative for protecting public health at our nation's beaches. EPA made a similar proposal last year as well, but cuts were avoided thanks to Heal the Bay and our partner groups' advocacy and a coalition of 19 U.S. Senators including California's Barbara Boxer and Dianne Feinstein expressing concerns about losing BEACH program funding. The roughly $10 million of annual federal funding allows states to develop and implement water quality monitoring and notification programs. EPA stated that after 10 years of funding, many non-federal agencies now have the ability to run their beach programs without federal support.

This is extremely concerning for two reasons: many state beach programs are run completely on federal funds (such as Oregon) and states are only legally required to implement beach programs when federal funding is provided. Public health protection may be seriously jeopardized if states are not funded to implement beach monitoring.

Routine beach water monitoring is essential for identifying polluted waters and notifying the 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. It is extremely important for EPA to realize the negative consequences and ramifications associated with the lack of beach program funding. 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.

Funding California's Beach Program

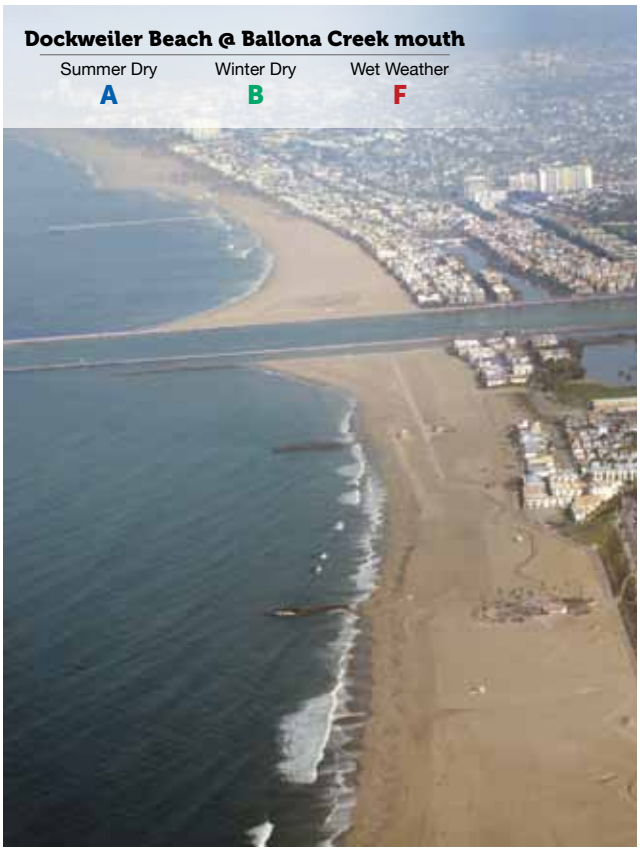
In 2008, former Governor Arnold Schwarzenegger line-item vetoed the nearly $1 million in California's beach monitoring funds. Fortunately, some municipalities temporarily allocated additional local funding in order to provide this invaluable service to the beach-going public. The State Water Resources Control Board (SWRCB) directed funds from Propositions 13 and 50, in addition to federal 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.

Leadbetter Beach, Santa Barbara

Summer Dry	Winter Dry	Wet Weather
A	B	C

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 the state recommended that Governor Jerry Brown only approve $1 million of the $1.8 million allowed in the bill. Of note, the $1.8 million figure is based on the minimum funding needed to sustain a basic model monitoring program in California. Therefore, any less than the full funding amount will put 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 order to streamline its new responsibilities, the SWRCB is currently collecting information from municipalities and County health agencies about 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 quality for these funds.

Some of Heal the Bay's recommended criteria for funding eligibility include:

- Beach water samples should be taken in areas of highest expected bacteria levels and highest recreational use ("point zero").
- 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.

Clean Water, Clean Beaches Measure

The Clean Water Clean Beaches Measure, proposed by the County of Los Angeles Flood Control District, brings a rare opportunity for Los Angeles County residents to reduce harmful pollution from entering the stormwater system and polluting our local waterways and beaches. The measure, if passed by voters, would provide $270 million annually in funding for new stormwater projects, creating multiple economic and environmental benefits for the entire region.

Urban runoff, during wet and dry weather, carries billions of gallons of polluted water into creeks, rivers, lakes and ultimately coastal waters. Contaminated water containing trash, chemicals, pesticides and bacteria puts public health at risk. Municipalities are subject to fines if they continue to pollute our local waterbodies and do not meet water quality regulations such as TMDLs (see page 48). Also important, the measure would allow for innovative infrastructure projects that capture stormwater before it enters our waters, to be filtered and reused. These projects have the potential to offset the high costs of importing already scarce water sources from Northern California and the Colorado River.

A fee would be assessed on parcel owners based on the amount of runoff produced by the property. A typical single-family residential fee would be $54 annually. Some 75% of commercial properties would pay less than $420 each year. The fees would provide dedicated funding that could only be used for pollution prevention, cleaning up local waterways and safeguarding local drinking supplies from pollutants.

After a strong show of support during a public hearing on March 12, 2013, the Los Angeles County Board of Supervisors voted to postpone discussion on the measure for 90 days, in order to work out remaining details. We look forward to the Board's next steps with regards to the measure and urge them to move forward expeditiously. More information on the CWCB measure can be found at: *www.lacountycleanwater.org*

End of EPA's TMDL Consent Decree

Under the Clean Water Act (CWA) the EPA or designated states are required to develop pollution reduction plans for waters that are deemed impaired by pollutants. These plans are called Total Maximum Daily Loads (TMDL's).

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 water-bodies in the Los Angeles Region. As a result, 48 TMDL's have been established for 175 water-bodies which address impairments that include elevated bacteria, metals, pesticides, polychlorinated biphenyl (PCBs) and trash. The consent decree has put Los Angeles and Ventura counties back on track for having rivers and marine waters that are safe for swimming. The final two EPA-established TMDLs are scheduled to be adopted later this spring. 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 and upcoming Long Beach Municipal Storm Water Permits

Over the past few years, Heal the Bay and other local non-government agencies (NGOs) led efforts to ensure that the Regional Board adopted a strong municipal separate storm sewer system permit (MS4). This was critical, as the last MS4 permit adopted in 2001 was prior to the adoption of critical bacteria TMDLs. By including TMDL numeric waste load allocations (pollution limits) and associated compliance deadlines in the MS4, they become enforceable. As the Santa Monica Bay dry weather TMDLs are seven years overdue for compliance, this action was particularly important to ensure that the TMDLs could be enforced.

However, despite serious concerns from Heal the Bay, our environmental partners and USEPA, the Los Angeles Regional Board adopted some weakened provisions in the MS4 stormwater permit for Los Angeles County on Nov. 8, 2012. The permit's weakened water quality protections could result in more polluted water and pose a higher risk of illness for beach-goers. The approved permit essentially allows stormwater dischargers to self-regulate, as it lacks strong and enforceable numeric limits.

Under the newly adopted rules, cities just have to submit a plan for reducing stormwater pollution to the Regional Board and have it approved to be in compliance, rather than having to actually demonstrate they are not exceeding specific thresholds for specific pollutants, such as bacteria. Heal the Bay, NRDC and LA Waterkeeper have collectively petitioned this aspect of the MS4 to the SWRCB.

While Heal the Bay is disappointed with the outcome and the lack of strong and enforceable numeric limits, there are some positives within the permit: very strong low-impact development requirements, strict compliance with beach bacteria dry-weather TMDLs and increased receiving water monitoring.

As urban runoff remains the No. 1 source of coastal pollution, keeping our local beaches clean and safe will pose an on-going challenge. However, Heal the Bay will continue to fight for strong and enforceable limits.

Dominguez Channel and Los Angeles River terminuses at the Port of Los Angeles

Of note, Long Beach's MS4 permit is up for renewal and is currently being reviewed by the Regional Board. Two workshops will be held this summer where the public will have a chance a provide feedback on the draft permit. The adoption hearing for the permit is tentatively scheduled for Sept. 12, 2013.

Requests for Time Schedule Orders (TSOs)

Last fall, all existing bacteria TMDLs in effect in Los Angeles County, were incorporated into Los Angeles County MS4. Stormwater dischargers are now on the hook for meeting water quality standards by established deadlines, or may face hefty fines. However, the MS4 allows for Permittees to apply for a Time Schedule Order (TSO) for those TMDLs where deadlines have passed, which would potentially allow more time to meet final compliance with waste load allocations.

Cabrillo Beach, harbor side

Summer Dry	Winter Dry	Wet Weather
F	F	F

To date the Regional Board has received TSO requests for the following bacteria TMDLs (by agency and location):

- **City of Los Angeles:** Inner Cabrillo Beach, San Pedro
- **Los Angeles County:** Malibu Creek and Lagoon
- **Los Angeles County and City of Los Angeles:** Marina del Rey Harbor Mother's Beach and Back Basins
- **City of Los Angeles:** Ballona Creek, Ballona Estuary and Sepulveda Channel

In general, we do not support the issuance of TSOs for TMDLs. In the vast majority of cases, there have been insufficient efforts put towards full TMDL compliance. After reviewing the TSO requests, we have determined that, most submissions fall short of criteria outlined in the MS4, including not effectively demonstrating sufficient efforts (e.g. implementation of water quality improvement projects) towards meeting water quality standards.

We urge the Regional Board to seriously consider these criteria when reviewing the TSO requests and determining if they should be brought to a hearing, as water quality improvement should not be placed on hold due to insufficient improvement efforts.

Rapid Methods at Los Angeles County Beaches

Current water quality testing methods take between 18-24 hours to process. When beach warning signs are posted they are not necessarily indicative of current water quality conditions. During the summer of 2010, in an effort to provide same-day beach water notification, Orange County piloted a rapid methods project at nine locations at Huntington State Beach, Newport Beach and Doheny State Beach. The success of the initial demonstration project, which showed that the use of rapid methods is feasible and samples can be collected in the early morning with results posted before noon, prompted a cooperative effort between the City of Los Angeles, Los Angeles County and SCCWRP to undertake a similar project at various Los Angeles County beaches. Between six and eight monitoring locations were investigated during the summers of 2011 and 2012. Preliminary results, including a positive correlation between rapid methods and current culture-based methods, seem promising. However, it may be some time before rapid methods go mainstream, as EPA's current Recreational Water Quality Criteria do not recognize rapid methods as a stand-alone method. This means that agencies wanting to implement rapid methods are still responsible for also processing the slower, culture based methods. This is a huge set-back in providing "real-time" public health protection, seeing that many agencies are financially struggling to simply maintain their current beach monitoring program. Heal the Bay will continue to advocate for the use of rapid methods, especially at high-use beach locations, in hopes that California will prioritize funding for this important methodology in the future.

Use Attainability Analyses (UAAs)

Use Attainability Analyses (UAAs) are essentially a tool used to justify the de-designation of a water-body's existing beneficial use, and thus, should only be used with extreme caution. De-designating a water-body's beneficial use can have long lasting negative effects on public health and water quality in receiving water-bodies. Thus, due-diligence must occur to determine if a UAA should even be pursued at all. For instance, UAAs are also not appropriate when water quality improvement efforts like TMDLs are already in place. Any

UAA that is pursued should be an extremely robust analysis to ensure that existing beneficial uses are not compromised and anti-degradation does not occur. Statewide, there has been only a single UAA leading to an approved Basin Plan Amendment and de-designation of a water-body's beneficial use – the Ballona Creek UAA for recreational use in the Los Angeles Region. Of note, Heal the Bay voiced many concerns with the analysis conducted for this UAA.

On June 15, 2012 the Santa Ana Regional Board adopted Basin Plan Amendments ("Amendments") that de-designated four water-bodies based on UAAs. In this case, existing REC-1 (primary contact recreation) beneficial uses were de-designated to REC-2 (non-contact water recreation) beneficial uses. Heal the Bay has several major concerns with the Amendments, which were also voiced by the USEPA. Our concerns include the failure to adequately address existing water quality problems to effectively meet water quality standards within those water reaches, an inadequate explanation of how water quality will be achieved immediately downstream of those reaches, and an inadequate analysis of existing beneficial uses.

The tangible effects from these proposed Amendments if approved are:

1) Increasing public health risk for those that recreate within these watersheds;
2) Abdicating the Regional Board's role and responsibility for protecting and ensuring beneficial uses of public water resources; and
3) Allowing dischargers to externalize their cost of doing business at the public's and environment's expense.

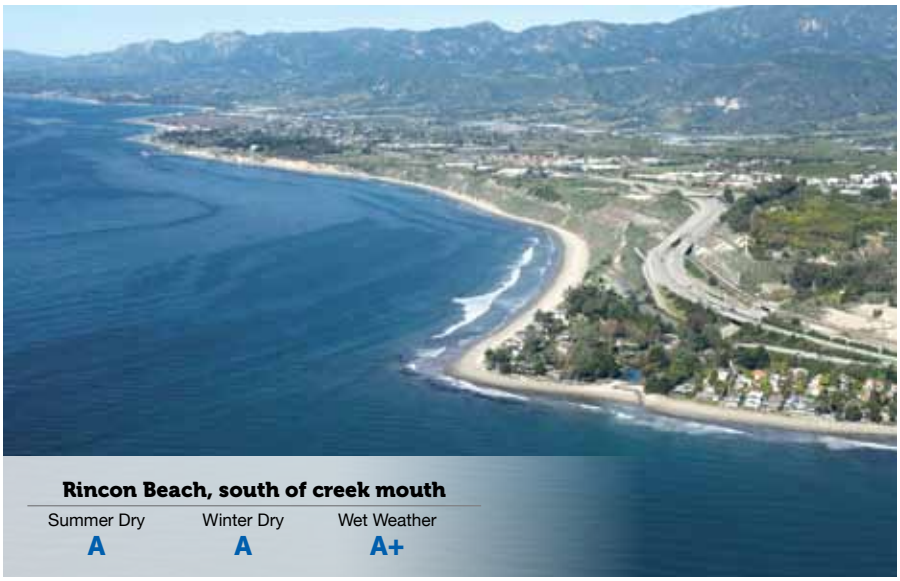
Due to these concerns and others, the State Board is currently holding off approving the Amendments until the Santa Ana Regional Board and USEPA have additional discussions.

Statewide Septic Systems Regulations

Assembly Bill 885 (AB 885), signed into law in 2000, required the SWRCB to set final regulations for siting, monitoring and water treatment performance for California's on-site waste water treatment systems (OWTSs) by January 2004. Due to the lack of progress over the years, Heal the Ocean, Heal the Bay and Coast Law Group sued the SWRCB to force them to finalize the regulations.

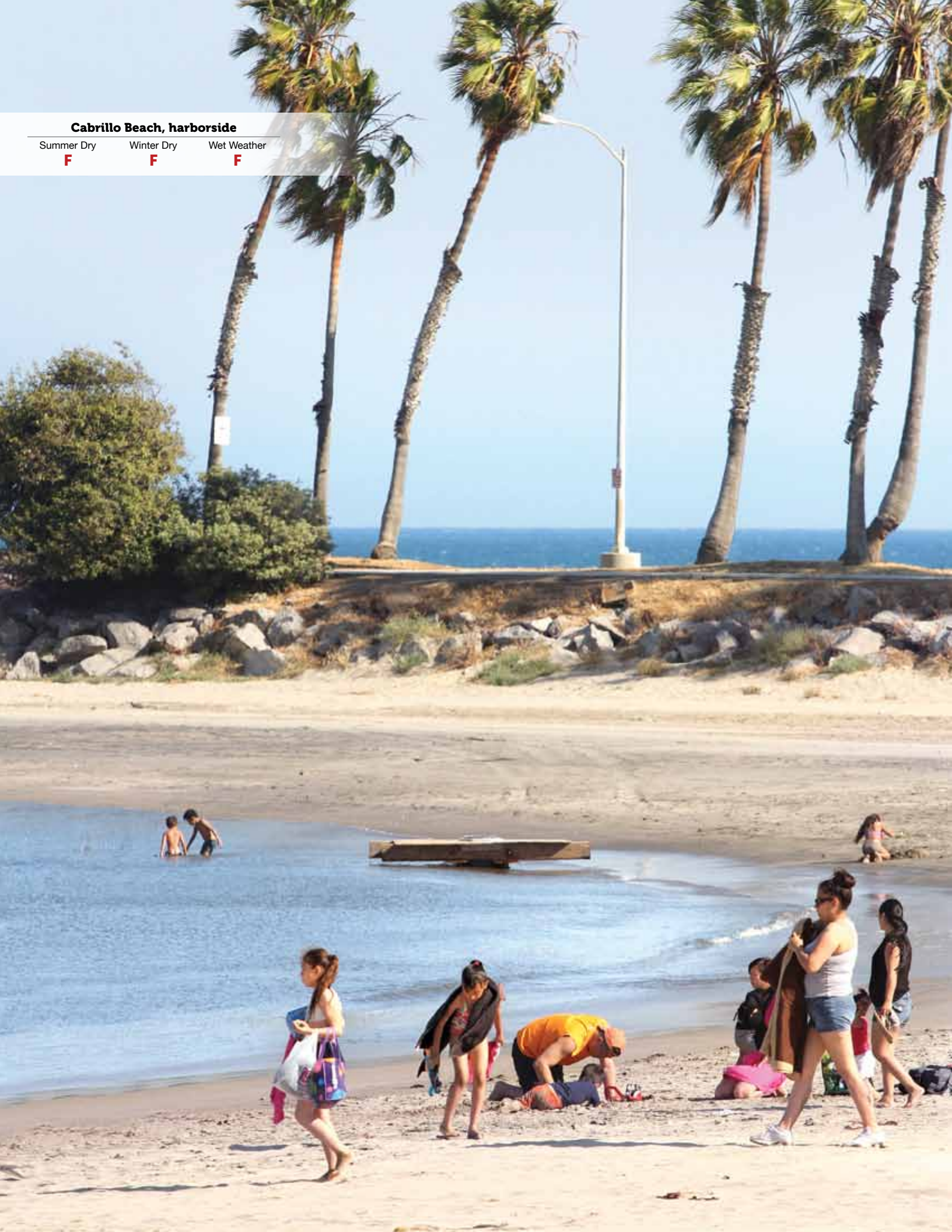
After much delay, on June 19, 2012 the SWRCB adopted Resolution No. 2012-0032, adopting the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy). This policy establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. The OWTS Policy takes effect on May 13, 2013.

Heal the Bay has some concerns with the final policy, including that there are minimal requirements for existing high and moderate risk systems, few incentives for TMDL implementation and no numeric nitrogen limit for large commercial systems. However, we are hopeful that the OWTS Policy will go a long way in preventing and mitigating harmful bacteria and nutrient pollution from problematic septic systems.



Rincon Beach, south of creek mouth

Summer Dry	Winter Dry	Wet Weather
A	A	A+



Cabrillo Beach, harborside

Summer Dry	Winter Dry	Wet Weather
F	F	F

Beach Types and Water Quality

California's beach grades were 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.

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. Figure 3-2 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 open ocean beaches are very clean during dry weather—by far the most prevalent type of beach in California.

TABLE 3-3: GRADES FOR ENCLOSED BEACHES IN LOS ANGELES AND ORANGE COUNTIES 2012-13

BABY BEACH, DANA POINT HARBOR	Summer Dry	Winter Dry	Wet Weather
West end	B		
Buoy line	B		
Swim area	B		
East end	C		
MOTHER'S BEACH, MARINA DEL REY			
Playground area	B	F	F
Lifeguard tower	A	F	F
Between tower and boat dock	A	F	F
CABRILLO BEACH, SAN PEDRO			
Harborside at restrooms	F	F	F
Harborside at boat launch	B	D	F
ALAMITOS BAY, LONG BEACH			
2nd Street Bridge and Bayshore	B	A	F
Mother's Beach, Long Beach, north end	B	A	F
COLORADO LAGOON, LONG BEACH			
North		A	F
South		A	F

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 and Santa Cruz counties) 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. Heal the Bay will continue to advocate that all beach monitoring locations in California associated with flowing storm drains or creeks be sampled directly at the outfall or where urban runoff meets the ocean (point zero). We hope to make point zero monitoring a prerequisite for eligibility of state water quality funding.

FIGURE 3-1: GOOD / POOR GRADES BY TYPE

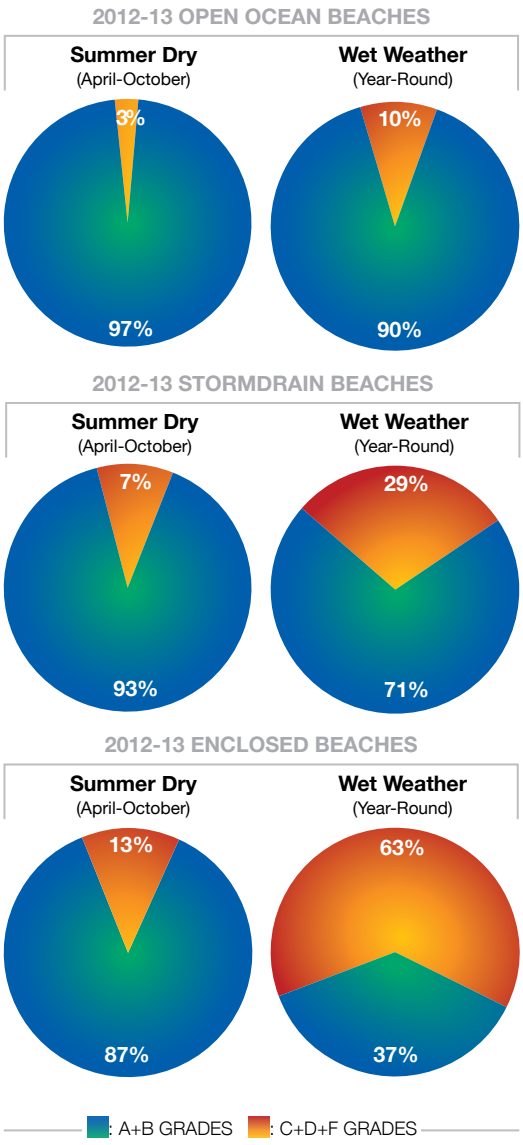
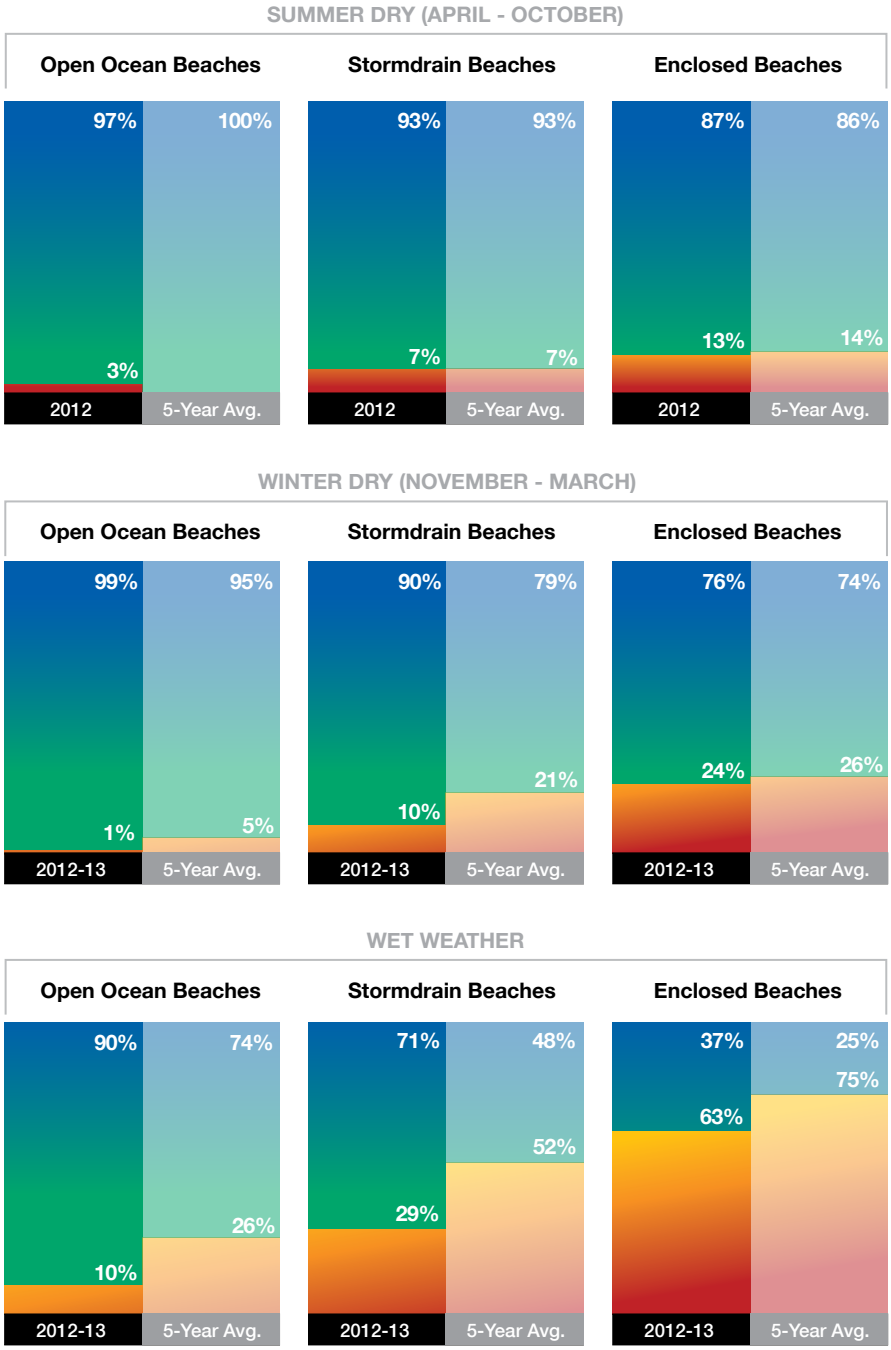


FIGURE 3-2: GOOD / POOR GRADES BY TIME PERIOD



CABRILLO BEACH - OPEN OCEAN BEACH

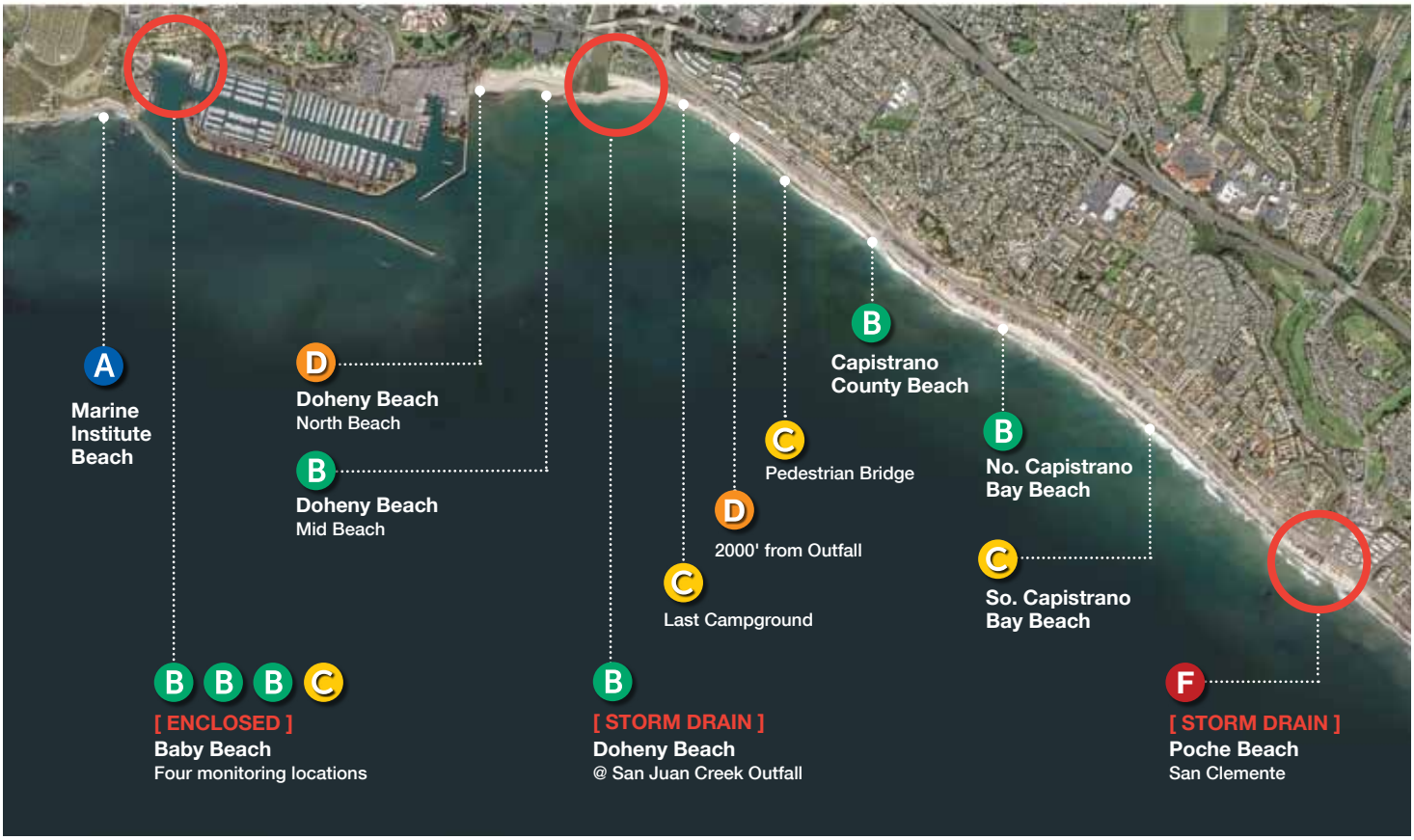
CABRILLO BEACH - ENCLOSED BEACH

FIGURE 3-3: EFFECTS OF ENCLOSED AND STORM DRAIN BEACHES IN LOS ANGELES COUNTY

Summer dry grades of public beaches along the Palos Verdes Peninsula and adjacent to the Port of Los Angeles

FIGURE 3-4: EFFECTS OF ENCLOSED AND STORM DRAIN BEACHES IN ORANGE COUNTY

Summer dry grades of public beaches in Dana Point and San Clemente



El Matador State Beach

Summer Dry	Winter Dry	Wet Weather
A+	**A**	**A**

Recommendations for the Coming Year

1) Proposition 218 reform
2) Sustainable funding source for water quality improvement projects (CWCB)
3) Advocate for full funding of CA's beach program
4) Minimum statewide monitoring requirements
5) Advocate for year-round monitoring at popular beaches
6) Incorporate TMDLs in all permits, including storm water permits
7) Ensure implementation of MS4 permits/TMDLs
8) Develop/enforce sanitary survey protocol requirements

1. Proposition 218 reform

Proposition 218, approved by California voters in 1996, requires the majority of property owners or a two-thirds vote of residents in a specific area to raise property-related fees. Fees for water, sewer and garbage collection were specifically exempted from these requirements.

Since Prop. 218 passed, the agencies implementing the federal Clean Water Act requirements have placed more responsibility on local governments to monitor and treat storm water and urban runoff.

As city and county jurisdictions come under regulatory requirements to improve the water quality of impaired water bodies and comply with the MS4, additional funding sources may be necessary. However, Prop. 218 requirements make it extremely difficult for a municipality to get voter approval of funding for critical water quality improvement projects.

For many years, Heal the Bay has advocated for Prop. 218 reform to ease the path to stormwater funding. We support including an additional exemption in Prop. 218 for "stormwater and urban runoff management", similar to the exemption for garbage and water. We also support a proposed Senate Constitutional Amendment 11 (Hancock) that would amend the California Constitution to lower the two-thirds residential voter requirement to 55%. Prop. 218 reform is critical for funding stormwater and urban runoff management projects and programs and cleaning California's polluted beaches and waterbodies.

2. Sustainable funding source for water quality improvement projects

Many municipalities in California lack dedicated funding for stormwater improvement projects. Over the years some communities have gone to the voters to obtain additional funding sources. Prop. O in the City of Los Angeles and Measure V in Santa Monica are examples of successful efforts to levy funds. Others such as a recent effort in Contra Costa County were not successful. Currently the County of Los Angeles is proposing the Clean Water Clean Beaches Measure (see Measure details under Major Beach News on page 54). If passed, the measure would provide $270 million annually for innovative stormwater projects throughout Los Angeles County, including stormwater reuse projects that have the ability to turn rainwater into an asset. A sustainable funding source for water quality improvement projects will also improve water quality, increase public health project, create jobs and increase local water supplies. Although Prop. 218 reform (as

discussed above) is critical to getting funding measures passed throughout the state, Heal the Bay will continue to strategize on different paths forward in order to achieve a statewide sustainable funding source for water quality improvement projects.

3. Advocate full funding for California's Beach Program

Senate Bill 482 (Kehoe), signed into law Oct. 8, 2011, transfers the responsibility for funding the Beach Monitoring Program from the State Department of Public Health to the State Board, and directs up to $1.8 million in permit fees towards California's Beach Program – a key element in ensuring that beach monitoring continues in California. This year, only $1 million (of $1.8 million) has been proposed in the state budget to fund the entire beach monitoring program. This shortfall will seriously affect the number and frequency of beaches monitored, especially the number of 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 the millions of year-round beachgoers in California. Heal the Bay and other local agencies will continue to advocate for the full Beach Program funding amount, in order to, at the very least, uphold California's current level of public health protection.

4. Advocate federal funding for Beaches Program

In April 2013, the EPA proposed to eliminate funding (approximately $10 million/annually) for the BEACH Grant Program after providing states with funding for more than 10 years. This program is crucial in protecting the public health of beach-goers across all coastal states, including the Great Lakes states. Many state beach programs run solely on federal funds, with states mandated to implement beach monitoring programs only when federal funding is provided. With more than 90 million annual beach-goers nationwide, public health protection may be seriously jeopardized. The federal Beach Program provides approximately $500,000/annually to California, which is critical in maintaining the state's current level of coastal monitoring. This year, California's current beach monitoring program (funded under SB 482, see details above) has been proposed at $1 million (of $1.8 million), making federal funding vital in maintaining the state's current monitoring program and crucial in upholding the existing levels of public health protection. Heal the Bay will continue to advocate for this fundamental federal funding, so the health of millions of beach-goers can continue to be protected throughout the country.

5. Minimum statewide monitoring requirements

Numerous inconsistencies among beach programs within the state continue to send misleading messages to the public. Inconsistencies including monitoring locations (point-zero vs. 25+ yards from outfall), monitoring frequency, and public notification requirements do not uniformly protect beach-goers. Now that SB 482 places control over beach funds to the SWRCB, there is a unique opportunity for improving beach monitoring and notification throughout the entire state. For example, not all counties monitor directly at the potential pollution source (point-zero) or consistently post beaches when state bacteria standards are

exceeded. However, the State Board could require municipalities to meet specific criteria before being eligible for State Beach Program funding. A few of Heal the Bay's proposed funding eligibility requirements include:

- Beach water samples should be taken in areas of highest expected bacteria levels (point-zero) and highest recreational use
- High risk beaches (high beach use and close proximity to a potential pollution source) should be sampled three to five times per week
- Public notification of water quality should occur immediately after sampling results are available
- Chronically polluted or high-risk beaches with continuous bacteria exceedances should be permanently posted
- Monitoring agencies and dischargers should be required to work together to streamline and enhance coastal monitoring for year-round public health protection

Heal the Bay will continue to work with the State Board in order to produce minimum statewide monitoring requirements so California's Beach Program can achieve consistent levels of public health protection for beachgoers statewide.

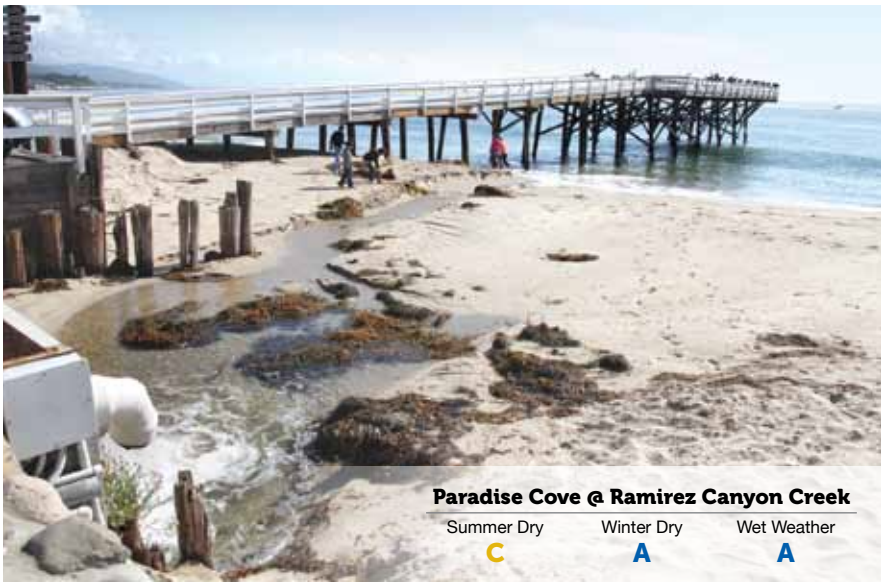
6. Advocate for the monitoring of the most popular beaches year-round

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." First, all monitoring locations (from all agencies including dischargers) need to be identified, so redundant monitoring can be eliminated. Second, beach monitoring locations should be prioritized based on beach attendance and location (urban vs. non-urban area). Prioritizing monitoring locations will allow higher-use beaches to be monitored more frequently, leading to greater public health protection. Lastly, a model monitoring program should also include point-zero monitoring 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.

7. 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 November 2012, the Los Angeles Regional Board voted to include all Los Angeles County issued TMDLs into the Municipal Separate Storm Sewer System (MS4) permit. Meaning, dischargers are now on the hook for immediately complying with dry weather TMDL compliance deadlines, since many dry weather deadlines have already come and gone.

Over the past year, two other statewide storm water permits (Caltrans and Phase II MS4) were renewed. The Industrial storm water permit is expected to be adopted later this year. Unfortunately, these permits defer incorporating TMDL WLAs. The stated reason for the delay is primar-



ily lack of staff resources to translate the WLAs into permits. Heal the Bay will continue to advocate for TMDL WLAs and compliance deadlines to be met and enforced in all storm water permits.

8. Ensure implementation of MS4 permits/TMDLs

Although it was a huge success to finally have all TMDLs in effect in Los Angeles County incorporated into the MS4 permit, we now face another challenge – ensuring all compliance deadlines (during wet and dry weather) are successfully met. Shortly after the MS4 adoption, a number of TSO requests were submitted with the purposes of getting additional time to meet compliance deadlines for bacteria WLAs.

9. Develop and enforce sanitary survey protocol requirements

Sanitary surveys are a tool used to investigate sources of fecal contamination to a waterbody.

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 such as the number/location of birds, bathroom location, residential septic tank information, location of storm water outfalls, kelp and/or algae amounts, and beach water quality.

The EPA recently released new marine beach sanitary survey tools, so beach managers have a technically sound and consistent approach towards investigating and identifying fecal contamination at chronically polluted beaches. Unfortunately, sanitary surveys are very costly and funding is not always readily available to implement a sanitary survey. Currently, California has no required sanitary survey protocols. However, with the EPA's new sanitary survey tools available, Heal the Bay will encourage the State Board to require sanitary surveys at chronically polluted beaches, at a minimum. This should include a thorough analysis of historical water quality data before funding these surveys.

10. Create Low Impact Development (LID) Ordinances

Disparity between dry and wet weather water quality in California continues to persist, demonstrating that more stormwater mitigation work needs to be completed. 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 typical 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. Heal the Bay will continue to advocate for the statewide development of LID ordinances, to concurrently retain local freshwater supplies and mitigate the impacts of urban runoff especially during wet weather. Given that the pace of new and re-development projects is somewhat slow, we urge municipalities to implement retrofit projects that incorporate LID features. Under the recently adopted Los Angeles MS4, permittees will need to development LID ordinances with minimum requirements. Of note, the EPA is scheduled to release a draft Stormwater Rulemaking later this year that will likely incorporate LID requirements.

Cabrillo Beach, ocean side

Summer Dry	Winter Dry	Wet Weather
A+	**A+**	**A+**

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 600 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 this 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.

WEEKLY 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.

Available on the iPhone App Store

Download for ANDROID

www.beachreportcard.org
www.healthebay.org

What is the history of the BRC?

Heal the Bay's first Beach Report Card was published in 1991 and covered about 60 monitoring locations in Los Angeles County from Leo Carillo 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 SCCWRP led bight-wide shoreline bacteria and laboratory inter-calibration studies were 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.

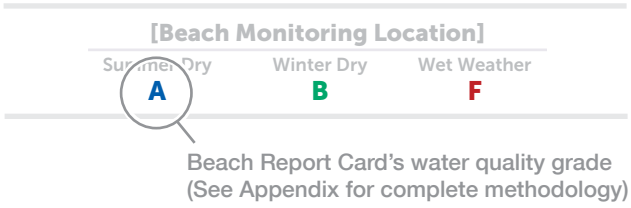
What do the grades mean to the beach user?

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.

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.

**Heal the Bay utilizes a definition of a 'rain event' for California as precipitation greater than or equal to one tenth of an inch (> 0.1"). For Oregon and Washington >0.2" is used. For complete methodologies, see Appendix A*

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. Faster methods are currently being developed but presently remain too costly to implement. Heal the Bay releases grades every Friday throughout the year based on the most recent available sample data for the entire west coast. Weekly grades and more can be found at *beachreportcard.org*

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 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

The most common types of indicator bacteria include:

- **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 bacteria 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 on page 63.

For more on storm drain beaches, see "Beach Types & Water Quality" on page 59.

Los Angeles River

Are beaches monitored year round?

This is the Beach Report Card's third year of grading water quality along the entire U.S. Pacific Coastline. A total of 633 shoreline monitoring locations were analyzed from Whatcom County in Wash-

ington to San Diego County at the Mexican border. Most sample locations are selected by monitoring, health, and regulatory agencies to specifically target popular beaches or those beaches frequently affected by runoff, (or in case of the Pacific Northwest beaches: popular shell fishing beaches.

According to the 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. However, the Obama Administration's proposed budget for FY 2014 slashed funding for the entire BEACH Act monitoring program (approximately $10 million). States are only required to monitor recreational waters when federal funding is available, meaning the proposed budget cuts could ultimately relinquish states of their monitoring responsibilities.

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). This past year 15 locations in Washington State were monitored throughout the winter months.

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 five and a half years ago. These large scale epidemiology studies (using over 30 microbial indicators) were 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 "Using Rapid Indicators for Enterococcus to Assess 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 (*www.ncbi.nlm.nih.gov/pmc/articles/PMC3354759*). An article summarizing Avalon's epidemiological results is current under peer review and is expected to be published later this year.

Water quality typically drops dramatically during and immediately after a rainstorm, but often rebounds to its previous level within a few days.

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2012-2013 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:

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

[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.]

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 a minimum of four dry weather samples collected within the allotted time frame).

FIGURE 4-1: GRADING SYSTEM

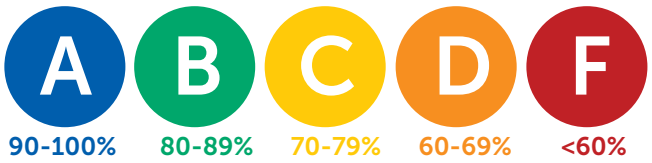


TABLE 4-1: TOTAL POINTS AVAILABLE BY COMPONENT

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

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).

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*

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).

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

'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.

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%	

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.

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.

2012-2013 Beach Report Card
Methodology: Oregon and Washington

The Oregon and Washington state grade methodology (using Enterococcus standards) was adapted from the seven standard California methodology (see Appendix A1).

FIGURE 4-2: GRADING SYSTEM

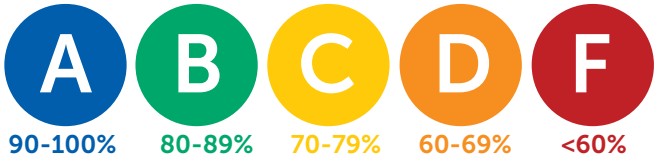


TABLE 4-5:
TOTAL POINTS AVAILABLE BY COMPONENT

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 compo-

nent 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.

2012-2013
Honor Roll for California

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

San Diego County

Oceanside, projection of Forster Street
Oceanside, St. Malo Beach, downcoast from St. Malo Road
Carlsbad, projection of Cerezo Drive
Carlsbad, projection of Palomar Airport Road
Carlsbad, Encina Creek outlet
Carlsbad, projection of Poinsettia Lane
Carlsbad, Batiquitos Lagoon outlet
Cardiff State Beach Charthouse parking lot
Cardiff State Beach, Las Olas, 100 yards south of Charthouse lot
Del Mar, projection of 15th Street
Point Loma, Point Loma Treatment Plant

Orange County

Surfside Beach, projection of Sea Way
Balboa Beach, The Wedge
El Moro Beach
Blue Lagoon
Camel Point
Laguna Lido Beach
9th Street 1000 Steps Beach
San Clemente Trafalgar Canyon

Los Angeles County

Leo Carillo Beach @ Arroyo Sequit Creek mouth
Zuma Beach @ Zuma Creek mouth
Las Tunas County Beach @ Pena Creek
Hermosa City Beach @ 26th Street
Palos Verdes (Bluff) Cove, Palos Verdes Estates
Abalone Cove Shoreline Park
Cabrillo Beach, ocean side

Ventura County

Oil Piers Beach, south of the drain, bottom of the wood staircase
Surfer's Knoll, adjacent to parking lot
Oxnard Beach Park @ Falkirk Avenue, south of drain
Oxnard Beach Park @ Starfish Drive, south of drain
Hollywood Beach @ Los Robles Street, south of drain
Ormond Beach - 50 yards north of Oxnard Industrial drain

Santa Barbara County

Guadalupe Dunes

San Mateo County

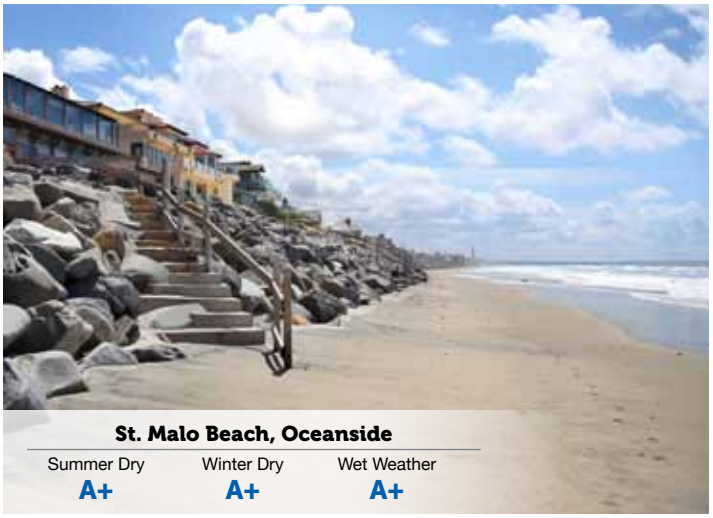
Montara State Beach @ Martini Creek
Sharp Park Beach, projection of San Jose Ave

The Wedge, Newport Beach

Summer Dry	Winter Dry	Wet Weather
A+	A+	A+

Bluff Cove, Palos Verdes Estates

Summer Dry	Winter Dry	Wet Weather
A+	A+	A+



St. Malo Beach, Oceanside

Summer Dry	Winter Dry	Wet Weather
A+	A+	A+

2012-2013
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	A	A	A+
	projection of Tyson Street	A	A+	A+
	projection of Forster Street	A+	A+	A+
	500' north of Loma Alta Creek outlet	A+	A+	A
	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+	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+
	Batiquitos Lagoon outlet	A+	A+	A+
Encinitas	Moonlight Beach @ Cottonwood Creek outlet	A	A	B
	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+
	San Elijo State Park, projection Liverpool Drive	A	A+	A+
Cardiff State Beach	San Elijo Lagoon outlet	A	A+	A+
	Charthouse parking lot	A+	A+	A+
	Las Olas, 100 yards south of Charthouse	A+	A+	A+
	Seaside State Park	A	A+	A+
Solana Beach	Tide Beach Park, projection Solana Vista Drive	A	A+	A+
	Fletcher Cove, projection Lomas Santa Fe Drive	A	A+	A+
	Seascape Surf Beach Park	A+		
Del Mar	San Dieguito River Beach	A	A+	A
	projection of 15th Street	A+	A+	A+
Torrey Pines	Los Penasquitos Lagoon outlet	A+	A+	B
La Jolla Shores	projection of Ave De La Playa	A	A	A+
La Jolla	South Casa Beach	B		
Windansea Beach	projection of Playa Del Norte	A	A+	A+
Pacific Beach	Pacific Beach Point, downcoast of Linda Way	A		
	Tourmaline Surf Park, projection of Tourmaline Street	A	A+	A

SAN DIEGO COUNTY		County "Beach Bummer" names appear in **bold**.		
		Summer Dry (April-Oct)	**Winter Dry** (Nov-Mar)	**Wet Weather** Year-Round
Mission Beach	Belmont Park	A+	A	A+
Mission Bay	Bonita Cove, east cove	A		
	Bahia Point, north side, 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		
	Vacation Isle Ski Beach	A+		
	Vacation Isle North Cove Beach	A		
Ocean Beach	San Diego River outlet (Dog Beach)	A	A	A
	Stub Jetty	A	A+	A
	Pier, north side @ Newport Avenue	A	A+	A+
	Ocean Pier, projection of Narragansett Avenue	A	A+	B
	projection of Bermuda Avenue	A	A	A
Sunset Cliffs	projection of Ladera Street	A	A+	A
Point Loma	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 @ boat launch	A		
	Tidelands Park, projection of Mullinix Drive	B		
Coronado	projection of Ave del Sol	A	A+	A+
	Silver Strand	A	A+	B
Imperial Beach	projection of Carnation Avenue	A	A+	D
	Imperial Beach Pier	A+	A	F
	projection of Cortez Avenue		A	
	south end of Seacoast Drive	A+	B	F
Tijuana Slough NWRS	3/4 mile north of Tijuana River	A+	A	D
	Tijuana Rivermouth	**C**	**C**	**F**
Border Field State Park	projection of Monument Road	A	B	D
	Border Fence, north side	A	A	B

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	C	F
	projection of 8th Street	A	A	C
	100 yards south of pier	A	A	A
	projection of 14th Street	A	A	A
Surfside Beach	projection of Sea Way	A+	A+	A+
Sunset Beach	projection of Broadway	A+	A+	A
Bolsa Chica Beach	across from the Reserve Flood Gates	A	A+	A+
Bolsa Chica Reserve	downcoast end of the State Beach	A	A+	A
Huntington City Beach	Bluffs	A	A	B
	projection of 17th Street	A+	A+	A
	Jack's Snack Bar @ Huntington Street	A	A+	A
	projection of Beach Boulevard	A	A+	A
Huntington State Beach	projection of Newland Street (SCE Plant)	A	A	B
	projection of Magnolia Street	A	B	B
	projection of Brookhurst Street	B	B	C
	Santa Ana River Mouth	A	A	F
Newport Beach	projection of Orange Street	A	A	D
	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 Pier	A+	A	A+
	The Wedge	A+	A+	A+
Huntington Harbor	Mothers Beach	A+		
	Trinidad Lane Beach	A+		
	Seagate Lagoon	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	C	F
	Newport Dunes, west	A	F	F
	Bayshore Beach	A	A+	F
	Via Genoa Beach	A	A	B
	Lido Yacht Club Beach	A+	A	B
	Garnet Avenue Beach	B	A	C
	Sapphire Avenue Beach	A	A+	A
	Abalone Avenue Beach	A	A	A
	Park Avenue Beach	A	A+	A

ORANGE COUNTY		County "Beach Bummer" names appear in **bold**.		
		Summer Dry (April-Oct)	**Winter Dry** (Nov-Mar)	**Wet Weather** Year-Round
Newport Bay (cont.'d)	Onyx Avenue Beach	A	A	A
	Ruby Avenue Beach	A	A+	B
	Grand Canal	A	A	A
	43rd Street Beach	A+	A	A
	38th Street Beach	A	A+	C
	19th Street Beach	A	A+	A
	15th Street Beach	A+	A	B
	10th Street Beach	A+	A	D
	Alvarado/ Bay Isle Beach	A	B	D
	N Street Beach	A+	A+	A
	Harbor Patrol Beach @ Bayside Drive	A	A+	A+
	Rocky Point Beach	A	A	A
Corona Del Mar	Corona Del Mar	A	A	A+
	Little Corona Beach	B	B	A+
Pelican Point	Pelican Point	A	A+	A+
Crystal Cove State Park	Crystal Cove (CSDOC)	A+	A+	B
	Crystal Cove	A+	A	A+
	Muddy Creek	A+	A	A+
	El Moro Beach	A+	A+	A+
Laguna Beach	Emerald Bay	A		A+
	Crescent Bay Beach	A+	B	A+
	Laguna Main Beach	A	A	B
	Laguna Hotel	A	A	A
	projection of Bluebird Canyon	A	A	A+
	Victoria Beach	A	A	A
	Blue Lagoon	A+	A+	A+
	Goff Island Beach @ Christmas Cove	A+	A	A+
	Treasure Island Beach	A	A	A
	North Aliso County Beach	A	A	B
	Aliso Creek, outlet	A	B	B
	Aliso Creek, 1000' south	A+	A	A
	Camel Point	A+	A+	A+
	Table Rock	A+	A	A
	Laguna Lido Beach	A+	A+	A+
	1000 Steps Beach	A+	A+	A+
	Three Arch Bay	A	A	A+
Dana Point	Monarch Beach, north	A	B	A+
	Salt Creek Beach	A	A	B
	Dana Strands Beach (AWMA)	A	A	A+
	Marine Science Institute Beach (SERRA)	A	A+	A

ORANGE COUNTY		County "Beach Bummer" names appear in **bold**. Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Dana Point (cont.'d)	**Doheny Beach, North Beach**	**D**	**F**	**D**
	Doheny Beach, mid-beach north of San Juan Creek	B	F	F
	Doheny Beach @ San Juan Creek (Outfall)	B	F	F
	1000' south of Outfall @ last campground	**C**	**D**	**F**
	2000' south of Outfall	**D**	**F**	**D**
	Doheny Beach @ pedestrian bridge	**C**	**D**	**D**
	Doheny Beach @ end of the park	B	B	C
	Capistrano County Beach	B	B	C
	North Capistrano Bay Community Beach	B	A	A
	South Capistrano Bay Community Beach	**C**	**A**	**A+**
San Clemente	**Poche Beach**	**F**	**D**	**D**
	North Beach @ Avenida Pico	A	C	C
	Pier lifeguard building, north	A	A+	A+
	Trafalgar Canyon	A+	A+	A+
	Avenida Calafia	A	A	A+
	Avenida Las Palmeras	A	A+	A+
Dana Point Harbor	Baby Beach, west end	B		
	Baby Beach, buoy line	B		
	Baby Beach, swim area	B		
	Baby Beach, east end	**C**		
	Guest Dock	A+		
	Youth Dock	A		

Los Angeles County

Malibu	Leo Carillo @ Arroyo Sequit Creek mouth	A+	A+	A+
	Nicholas Beach @ San Nicholas Creek mouth	A+	A	A+
	El Matador State Beach @ Encinal Canyon	A+	A	A
	Broad Beach @ Trancas Creek mouth	A+	A	A
	Zuma Beach @ Zuma Creek mouth	A+	A+	A+
	Walnut Creek outlet	A	A+	D
	Little Dume, projection of Zumirez Drive	A	A	B
	Paradise Cove @ Ramirez Canyon Creek	**C**	**A**	**A**
	Escondido Creek mouth	**C**	**A**	**B**
	Latigo Canyon Creek mouth	A	A	A
	Solstice Canyon Creek mouth	B	B	C
	public stairway @ 24822 Malibu Road	A	A	A
	Puerco Beach @ creek mouth	A	A+	A
	Puerco Beach @ Marie Canyon drain	B	A	D
	Malibu Colony fence	A	A+	A

LOS ANGELES COUNTY		County "Beach Bummer" names appear in **bold**.		
		Summer Dry (April-Oct)	**Winter Dry** (Nov-Mar)	**Wet Weather** Year-Round
Malibu (cont.'d)	Surfrider Beach, lagoon outlet	B	F	F
	Malibu Pier, 50 yards east	**F**	**D**	**C**
	Carbon Beach @ Sweetwater Canyon	A	A	C
	Las Flores Creek mouth	A	A+	B
	Big Rock Beach @ 19948 PCH stairs	A	A+	A
	Las Tunas Beach @ Pena Creek mouth	A+	A+	A+
	Topanga State Beach @ creek mouth	B	C	F
Castle Rock Beach	Castlerock drain	A	A	A
Will Rogers State Beach	17200 Pacific Coast Highway, 1/4 mile east of Sunset drain	A	A+	A
	16801 Pacific Coast Highway, drain near fence	A	A+	B
	Pulga Canyon drain	A+	A	C
	Temescal Canyon drain	A	A	B
	Santa Monica Canyon drain	A	A	F
Santa Monica	Montana Avenue drain	A	A	C
	Wilshire Boulevard drain	A	A	C
	Municipal Pier	B	F	F
	Pico/Kenter drain	A	D	F
	Strand Street, in front of the restrooms	A+	A+	C
	Ocean Park Beach @ Ashland Avenue drain	A	A	F
Venice Beach	Rose Avenue drain	A+	B	D
	Brooks Avenue drain	A	A+	B
	Windward Avenue drain	A	A	C
	Venice Fishing Pier, 50 yards south	A+	A	B
	Topsail Street	A	A	D
Marina del Rey	Mothers' Beach, playground area	B	F	F
	Mothers' Beach, lifeguard tower	A	F	F
	Mothers' Beach, between Tower and Boat dock	A	F	F
Dockweiler Beach	Ballona Creek mouth	A	B	F
	Culver Boulevard drain	A+	A	B
	North Westchester drain	A	A+	A
	south of D&W jetty @ World Way	A+	A	A
	Imperial Highway drain	A	A	B
	Hyperion Treatment Plant, One Mile Outfall	A+	A	A
	projection of Grand Avenue drain	A	A+	D
Manhattan Beach	40th Street	A	A+	A
	28th Street drain	A	A	F
	Manhattan Beach Pier drain	A	A+	A
Hermosa Beach	26th Street	A+	A+	A+
	Pier, 50 yards south	A	A+	B
	Herondo Street drain	A	B	F

LOS ANGELES COUNTY		County "Beach Bummer" names appear in **bold**.		
		Summer Dry (April-Oct)	**Winter Dry** (Nov-Mar)	**Wet Weather** Year-Round
Redondo Beach	**Pier, south side**	**C**	**F**	**F**
	Pier, 100 yards south	B	B	D
	Sapphire Street	B	A+	A
	Topaz Street, north of jetty	**C**	**C**	**B**
Torrance Beach	Avenue I drain	A	A+	A
Palos Verdes Peninsula	Malaga Cove @ trail outlet	A	A	A
	Malaga Cove @ rocks	A	A+	A
	Bluff Cove	A+	A+	A+
	Long Point	A	A	A+
	Abalone Cove Shoreline Park	A+	A+	A+
	Portuguese Bend Cove	A	A+	A+
San Pedro	Royal Palms State Beach	A	A+	A+
	Wilder Annex	A	A+	A+
Cabrillo Beach	oceanside	A+	A+	A+
	harborside @ restrooms	**F**	**F**	**F**
	harborside @ boat launch	B	D	F
Long Beach	projection of 5th Place	A	A	C
	projection of 10th Place	B	A	C
	projection of Molino Avenue	A	A	C
	projection of Coronado Avenue	**C**	**A**	**B**
	Belmont Pier, west side	**C**	**A**	**B**
	projection of Prospect Avenue	B	A	B
	projection of Granada Avenue	B	A	A
Alamitos Bay	2nd Street Bridge @ Bayshore	B	A+	F
	shore float	B	A	D
	Mother's Beach, north end	B	A+	F
	56th Place on bayside	**C**	**A+**	**F**
Long Beach	projection of 55th Place	A	A+	B
	projection of 72nd Place	B	A	B
	Colorado Lagoon, north		A+	
	Colorado Lagoon, south		A+	
Avalon Beach	**between Metropole Avenue and Tuna Club**	**F**		
	between Pier and Metropole Avenue (2/3 distance)	**F**		
	between Pier and Metropole Avenue (1/3 distance)	**F**		
	between drain and Pier (2/3 distance)	**F**		
	between drain and Pier (1/3 distance)	**D**		

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 the creek mouth	A	A	A+
	100 yards south of the creek mouth	A		
Mussel Shoals Beach	south of drain	A+		
Oil Piers Beach	south of drain, bottom of the wood staircase	A+	A+	A+
Hobson County Park	base of stairs to the beach	A		
Faria County Park	south of drain @ north end of park	A	A+	B
Mandos Cove	south of drain	A+		
Solimar Beach	south @ end of east gate access road	A	A+	A+
Emma Wood State Beach	50 yards south of first drain	A	A	A+
Surfer's Point @ Seaside	end of access path via wooden gate	A	A+	A+
Promenade Park	Figueroa Street	A	A	A
	Redwood Apartments	A		
	Holiday Inn, south of drain @ California Street	A		
San Buenaventura Beach	south of drain @ Kalorama Street	A		
	south of drain @ San Jon Road	A	A+	A
	south of drain @ Dover Lane	A		
	south of drain @ Weymouth Lane	A		
Ventura Harbor outlet	Marina Park, beach @ north end of playground	A		
	Peninsula Beach, north of South Jetty	A		
	Surfer's Knoll, adjacent to parking lot	A+	A+	A+
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		F
	Beach Park @ 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 Beach Park	50 yards north of Pier	A	A+	A+
Ormond Beach	50 yards south of J Street drain	A	A+	A+
	50 yards north of Oxnard Industrial drain	A+	A+	A+
	Arnold Road	A	A+	A+
Point Mugu	Point Mugu Beach, adjacent to parking lot entry	A+		
	Thornhill Broome Beach, adjacent to parking lot entry	A+		
Sycamore Cove Beach	50 yards south of creek mouth	A+		
County Line Beach	50 yards south of creek mouth	A+		
Staircase Beach	bottom of staircase	A		

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

Santa Barbara County

		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Guadalupe Dunes		A+	A+	A+
Jalama Beach		A	A+	B
Gaviota State Beach		A	A	A+
Refugio State Beach		A	B	A
El Capitan State Beach		A+	A	B
Sands @ Coal Oil Point		A+	A	A+
Goleta Beach		A	A	A
Hope Ranch Beach		B	A	B
Arroyo Burro Beach		B	B	A
Leadbetter Beach		A	B	C
East Beach	@ Mission Creek	A	A+	B
	@ Sycamore Creek	A	A	B
Butterfly Beach		A	A	A
Hammond's Beach		A+	A	A
Summerland Beach		A	A	A+
Carpinteria State Beach		A	A	A

San Luis Obispo County

San Simeon	Pico Avenue	A	B	A+
Cayucos State Beach	halfway between Cayucos Creek and Pier	A	A	D
	downcoast of pier	A	A	B
	Studio Drive parking lot near Old Creek	A	A+	A+
Morro Strand State Beach	projection of Beachcomber Drive	A	A+	A+
Morro Bay City Beach	projection of Atascadero	A	A+	A
	Morro Creek, south side	A	A+	A
	75 feet north of main parking lot	A	A+	A+
Montana De Oro State Park	Hazard Canyon	A	A	A+
Olde Port Beach	**Harford Beach, north**	**C**	**C**	**B**
Avila Beach	projection of San Juan Street	B	A+	D
	projection of San Luis Street	A	A	C
Pismo Beach	Sewers @ Silver Shoals Drive	A	A	A+
	projection of Wadsworth Street	A	A+	B
	Pier, 50 feet south of the pier	A	A	A
	projection of Ocean View	A	A	A
	330 yards north of Pier Avenue	A+	A	A+
	projection of Pier Avenue	A	B	A
	571 yards south of Pier Avenue, end of Strand Way	A	A+	A+

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

Monterey County

		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Monterey State Beach		A		
Monterey Peninsula	Monterey Municipal Beach @ the commercial wharf	B		B
	San Carlos Beach @ San Carlos Beach Park	A		F
	Lover's Point Park, projection of 16th Street	**C**		**F**
	Asilomar State Beach, projection of Arena Avenue	A		
	Spanish Bay (Moss Beach), end of 17 mile drive	A		A+
	Stillwater Cove @ Beach and Tennis Club	**C**		**A+**
Carmel	City Beach, projection of Ocean Avenue (west end)	A		

Santa Cruz County

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

San Mateo County

Pacifica	Sharp Park Beach, projection of San Jose Avenue	A+	A+	A+
	Sharp Park Beach, projection of Birch Lane	A	A+	A+
	Rockaway Beach @ Calera Creek	A+	A+	A
	Linda Mar Beach @ San Pedro Creek	A	A	D
Montara State Beach	@ Martini Creek	A+	A+	A+
Moss Beach	Fitzgerald Marine Reserve @ San Vicente Creek	B	B	B
Pillar Point Harbor	Mavericks Beach Westpoint Avenue	A	A	F
	end of Westpoint Avenue	A	A	F
Half Moon Bay	Surfer's Beach, southend of riprap	A+	A+	D
	Roosevelt Beach, south end of parking lot	A	A+	C
	Dunes Beach	A	A+	B

SAN MATEO COUNTY		County "Beach Bummer" names appear in **bold**. Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Half Moon Bay (cont.'d)	Venice Beach @ Frenchman's Creek	A	A	B
	Francis Beach @ the foot of the steps	A+	A+	A
San Gregorio State Beach	@ San Gregorio Creek	A+		
Pomponio State Beach	@ Pomponio Creek	A		
Pescadero State Beach	@ Pescadero Creek	A		
South Coast	Bean Hollow State Beach	A+		
	Gazos Beach @ Gazos Creek	A+		
Bayside	Oyster Point	A	A	D
	Coyote Point	A	A	D
	Marina Lagoon, Aquatic Park	**F**	**F**	**F**
	Marina Lagoon, Lakeshore Park, behind Rec Center	**D**	**F**	**F**
	Kiteboard Beach	A	B	D
Alameda County				
Alameda Point	North	A		C
	South	A		A+
Crown Beach	Crab Cove	A		C
	Bath House	A		A+
	Windsurf Corner	A		A+
	Sunset Road	A		A
	2001 Shoreline Drive	A		D
	Bird Sanctuary	A		F
San Francisco County				
Aquatic Park Beach	Hyde Street Pier, projection of Larkin Street	A	A	A
	211 Station	A	F	A
Crissy Field Beach	East, 202.4 Station	A	C	B
	West 202.5 station	A	A+	A+
Baker Beach	East	A	A+	C
	Lobos Creek	**C**	**A**	**D**
	West	A	A+	D
China Beach	end of Sea Cliff Avenue	A	A+	B
Ocean Beach	projection of Balboa Avenue	A	A+	D
	projection of Lincoln Way	A+	A	D
	projection of Sloat Boulevard	A	A+	C
Candlestick Point	Jackrabbit Beach	A	A	A
	Windsurfer Circle	**C**	**F**	**F**
	Sunnydale Cove	A	D	C

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

Contra Costa County

		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Keller Beach	North Beach	A		D
	South Beach	A		C

Marin County

		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Tomales Bay	Dillon Beach	A+		
	Lawson's Landing	A+		
	Miller Park	A		
	Heart's Desire	A		
	Shell Beach	A+		
	Chicken Ranch Beach @ creek outlet	A		
	Millerton Point	A		
Drakes Bay	Drake's Beach	A+		
	Limantour Beach	A+		
Bolinas Bay	Bolinas Beach (Wharf Road)	A		
	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	A		
Schoonmaker Beach		A		
China Camp		A		

Sonoma County

		Summer Dry (April-Oct)	Winter Dry (Nov-Mar)	Wet Weather Year-Round
Gualala Regional Park Beach		A+		
Black Point Beach		A+		
Stillwater Cove Regional Park Beach		A		A
Goat Rock State Park Beach		A+		
Salmon Creek State Park Beach		A		
Campbell Cove State Park Beach		A		A+
Doran Regional Park Beach		A+		

	County "Beach Bummer" names appear in **bold**.		
	Summer Dry (April-Oct)	**Winter Dry** (Nov-Mar)	**Wet Weather** Year-Round
Mendocino County			
Pudding Creek ocean outlet	A		
Big River near PCH	A+		
Van Damme State Park @ the Little River	A+		
Humboldt County			
Trinidad State Beach near Mill Creek	B		
Luffenholtz Beach near Luffenholtz Creek	A		
Moonstone County Park (Little River State Beach)	A		
Clam Beach County Park near Strawberry Creek	A		
Mad River Mouth, north side	A		
Del Norte County			
Crescent City - Battery Point Lighthouse	A+	A+	A+

2012-2013 Grades by County for Washington

Whatcom County

		Summer Dry	Wet Weather
Bellingham Marine Park	inner east	A+	A+
	inner west	A	A+
	outer	A+	A+
Birch Bay County Park	mid	A	B
	north	A	B
	south	A	D
Larrabee State Park Wildcat Cove	mid	C	D
	south	B	D
	west	F	F
Little Squalicum Park	east	F	F
	mid	F	F
	west	F	F

Snohomish County

Edmonds Underwater Park	mid	A	A
	north	A+	D
	south	A+	A+
Howarth Park	mid	A+	D
	north	A	F
	south	A+	D
JeKayak Point County Park	mid	A+	A+
	north	A+	A+
	south	A	A+
Marina Beach Edmonds (no dogs)	mid	A+	A+
	north	A+	A+
	south	A+	A+
Mukilteo Lighthouse Park	mid	B	D
	north	F	F
	south	A	A+
Picnic Point County Park	mid	A+	A+
	north	A	A+
	south	A	A+

Thurston County

		Summer Dry	Wet Weather
Burfoot County Park	mid	A+	A+
	north	A+	A+
	south	A+	A+

Skagit County

Bayview State Park	mid	A	F
	north	A	F
	south	A	C

Pierce County

Browns Point Park Lighthouse	mid	A+	A+
	east	A+	A+
	south	A+	B
Dash Point County Park	east	A	B
	east of pier	A+	C
	west of pier	A+	B
Fox Island	enclosed	A+	A+
	mid	A+	A+
	west	A+	A+
Owens Beach Point Defiance Park	mid	A+	A+
	North	A+	A+
	south	A+	A+
Penrose Point State Park	east	A	A+
	mid	A+	A+
	west	A+	A+
Purdy Sandspit County Park	east	A+	B
	mid	A+	A+
	west	A+	A+
Ruston Way	mid	A+	B
	north	A	A+
	south	A	B
Sunnyside Beach Park	mid	A	A+
	north	A+	A+
	south	A+	A+

Washington cont.'d

PIERCE COUNTY		Summer Dry	Wet Weather
Titlow Park	mid	A+	B
	north	A+	A+
	south	A+	B

Mason County

Allyn Waterfront Park	mid	A+	A+
	north	A+	A+
	south	A+	A
Jarrell Cove State Park	east dock north	A+	A+
	east dock south	A+	A+
	east shore	A+	A+
Potlatch State Park	mid	A+	A+
	north	A+	A+
	south	A+	A+
Twanoh State Park	point	A+	A+
	west of dock	A+	A+
	west of point	A+	A+

Kitsap County

Eagle Harbor Waterfront Park	east	A	C
	mid	A+	D
	west	A+	B
Fay Bainbridge State Park	mid	A+	A+
	north	A	A+
	south	A+	A+
Illahee State Park	mid	A	D
	north	A	C
	south	A+	C
Indianola Dock	east	A	A+
	mid	A+	A+
	west	A+	A+
Lions Park	mid	A+	A+
	north	A+	B
	south	A+	A+

KITSAP COUNTY		Summer Dry	Wet Weather
Point No Point Lighthouse Park	mid	A+	A+
	north	A+	A+
	south	A+	A+
Pomeroy Park Manchester Beach	mid	A	B
	north	A	A
	south	A	A+
Scenic Beach State Park	east	A+	A+
	mid	A+	A+
	west	A+	A+
Silverdale County Park	east	A+	A+
	mid	A+	A+
	west	A+	A+

King County

Alki Beach Park	mid	A+	C
	north	A+	A+
	south	A+	A+
Carkeek Park	mid	A+	A+
	north	A+	A+
	south	A+	A+
Golden Gardens	mid	A+	A+
	north	A+	A+
	south	A	C
Lincoln Park	mid	A+	A+
	north	A+	A+
	south	A+	A+
Redondo County Park	mid	A+	B
	north	C	A+
	south	A+	A+
Saltwater State Park	mid	A+	A+
	north	A+	A+
	south	A+	A+
Seahurst (Ed Munro) Park	mid	A+	A+
	north	A+	A+
	south	A+	A+

Washington cont.'d

Jefferson County

		Summer Dry	Wet Weather
Camp Parsons Boy Scout Brinnon Camp	east	A+	A+
	mid	A+	A
	west	A+	A+
Fort Worden State Park	mid	A+	A+
	north	A+	A+
	south	A+	A+
Herb Beck Marina	east	A	A+
	mid	A+	A+
	west	A	A+

Island County

Freeland County Park Holmes Harbor	east	F	F
	mid	B	A+
	west	D	F
Oak Harbor City Beach Park	east	A+	A+
	mid	A	F
	west	A	F
Oak Harbor Lagoon	mid	A+	F
	north west	A+	D
	south east	A+	A+

Grays Harbor

Westhaven State Park Half Moon Bay	mid	A+	A+
	north	A+	A+
	south	A+	A+
Westhaven State Park South Jetty	mid	A+	A+
	north	A+	A+
	south	A+	A+
Westport - The Groynes	east	A+	A+
	mid	A+	A+
	west	A+	A+

Clallam County

		Summer Dry	Winter Dry	Wet Weather
Cline Spit County Park	mid	A		A+
	north	A		A
	south	A		A+
Dakwas Park Beach Neah Bay	east	A+	A+	A+
	mid	A+	A+	A+
	west	A	A+	A
Front Street Beach East	mid	A	A+	A+
	at Kal Chate St.	A+	A+	A+
	at Pine Street	A+	A+	A+
Hobuck Beach	mid south	A+	A+	A+
	north	A+	A+	A+
	south	A	A+	A+
Hollywood Beach	east	A		A
	mid	A+		A+
	west	A+		A+
Salt Creek Recreation Area	mid	A+		A+
	north	A+		A+
	south	A+		A+
Sooes Beach	mid	A+	A+	A+
	north	A+	A+	A+
	south	A+	A+	A
Third Beach Neah Bay	east		A+	A+
	mid		A+	A+
	west		A+	A+
Warmhouse Beach	east	A+		A+
	mid	A+		A+
	west	A+		A+

2012-2013 Grades by County for Oregon

Clatsop County		Summer Dry	Wet Weather
Cannon Beach	@ Ecola Creek mouth (2nd Avenue)	A+	A+
	near Ecola Court Storm Outfall	A+	A+
Seaside Beach	@ 12th Avenue	A+	A+
	@ Broadway turn around	A+	A+
	@ U Avenue	A+	A+
Tolovana State Park Beach	@ Chisana Creek	A+	B
	50m north of Chisana Creek	A+	A+
	50m south of Chisana Creek	A+	A+

Tillamook County			
Short Sand Beach (Oswald State Park)	@ Short Sand Creek	A+	A+
	middle	A+	A+
	north end	A+	A+

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Glossary

ARRA	American Recovery and Reinvestment Act
BAV	Beach Action Value
BMP	best management practices
BRC	Beach Report Card
CBP	Clean Beach Project (Poche)
CBI	Clean Beach Initiative
CDO	Cease and Desist Order
CSS	combined sewer and storm drain system
CSD	combined sewer discharges
CSO	combined sewer overflows
CWA	Clean Water Act
DEH	Division of Environmental Health
E. coli	Escherichia coli
EMD	Environmental Monitoring Division (L.A.)
EPA	Environmental Protection Agency
EPA BEACH Act	National Beach Guidance and Performance Criteria for Recreational Waters
FIB	fecal indicator bacteria
GI illness	Gastrointestinal Illness
LFD	Low Flow Diversion
LID	Low Impact Development
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NOV	Notice of Violation
NGO	Non-Government Agency
NRDC	Natural Resources Defense Council
NSE	Natural Source Exclusion
OWTS	Onsite Wastewater Treatment System
PCB	polychlorinated biphenyl
point zero	location where outfall meets the ocean
QMRA	Quantitative Microbial Risk Assessment
Regional Board	Regional Water Quality Control Board
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
USEPA	United States Environmental Protection Agency
wave wash	monitored location where runoff meets surf

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.

Acknowledgements and Credits

Heal the Bay would like to give special thanks to Washington's Department of Health and Department of Ecology, who jointly manage Washington's beach program, for generously providing local, current information on Washington's beach water quality. We would also like to thank Oregon's Department of Human Services and Oregon's Department of Environmental Quality for providing water quality data. All agencies provided valuable advice and information, making the Beach Report Card possible for Oregon and Washington.

Additionally, this report and the entire Beach Report Card program would not be possible without the cooperation of the many monitoring and public agencies throughout California. These agencies include:

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

A special thank you for their continued support in funding the Beach Report Card program and the publication of this report:

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2012-2013 Annual Beach Report Card

Report Research and Copy: Amanda Griesbach

Data Compilation and Analysis: Mike Grimmer

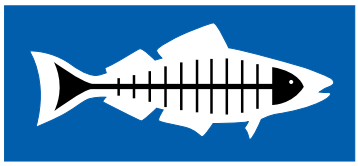
Copy Editors: Anne Bergman, Kirsten James

Design: Joy Aoki

Cover Photo: Ben Pitterle (surfphotoguy.com)

Interior Photos: Joy Aoki, Michelle Bilodeau, Mike Grimmer, Steven Heap, Kirsten James, Mariusz Jurgielewicz, Christina Lauren, Byron Moore, Kevin Panizza, Thomas Seabourn, Carrie Vanderhaar courtesy of Lighthawk/Santa Barbara Channelkeeper, EBRPD staff, surf-shot.com, 123rf.com, epicstockmedia

Printed on recycled paper.



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