San Diego County 2003 Beach Closure & Advisory Report



Crystal Pier, Pacific Beach. Photo: F. Poli

Beach water quality contamination events and days posted for beaches within San Diego County, California, USA.

Prepared by the County of San Diego Department of Environmental Health Land & Water Quality Division Recreational Water Program



County of San Diego



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San Diego County 2003 Beach Closure & Advisory Report

Summary and Comparison to Previous Years

In 2003, San Diego County beaches had 1115 water quality closure and advisory days as a result of reported contamination events. ¹ The county as a whole also experienced 32 days when all coastal waters were under a General Advisory due to urban runoff impacting beaches after rainfall. Of the 1115 days posted for the year, there were 493 water quality closure and advisory days posted between April 1 and October 31, 2003.

This report will present the causes of water quality contact advisories and closures, and the days posted for those events, for the entire county and by coastal jurisdiction. Except for closure events by themselves, comparisons to previous years will use the 493 water quality closure and advisory days posted between April 1 and October 31. Comparison to previous years are limited to the April 1 to October 31 time period due to changes since 2001 in beach water quality monitoring frequencies (see next page) during the winter months (November to March). These changes prevent accurate comparsions of beach advisory data (based upon monitoring exceedances) for an entire calendar year. Monitoring frequencies between April 1 and October 31 have remained relatively consistent since 2000, so yearly comparisons can be made during this time period.

The number of days posted under advisory due to monitoring exceedances and precautionary advisories have decreased significantly compared to a similar time period (April to October) in 2002. This was due to major reductions in the number of days posted under advisory at Mission Bay beaches and Shelter Island Shoreline Park in San Diego Bay. However, beaches at nine out of thirteen coastal jurisdictions showed a slight increase in the number of days posted compared to a similar time period in 2002.

For water quality closure events due to sewage releases, 2003 experienced a slight increase compared to 2002. This increase was primarily attributed to the number of water contact closures issued for south county beaches (Imperial Beach, Silver Strand, and Coronado) due to sewage contaminated flows in the Tijuana River. February through April 2003 had significantly more rain than the previous year, causing higher and continued flows from the Tijuana Estuary to enter ocean waters.

Several beach water quality studies and a health risk study were conducted in San Diego County in 2003. At south county beaches, two on-going research projects provide data to DEH to enhance the accuracy of notifications of contaminated waters. A County of San Diego grant to the Scripps Institution of Oceanography helped develop doplar radar, weather, and ocean current real-time data on the internet for ocean waters near Imperial Beach. This information allows DEH to make better informed decisions on when to issue water quality closures for south county beaches due to contaminated flows from the Tijuana Estuary. A second project in the south county uses a grant from the Regional Water Quality Control Board for satellite and aerial images of the ocean waters off Imperial Beach to verify the sources of contamination and track their movements in ocean waters.

The County of San Diego DEH obtained a U.S. EPA grant to verify the temporal and spatial extent of contamination of beaches next to lagoons following rain. Intensive sampling following two rain events was conducted at the shorelines adjacent to the San Elijo and Los Peñasquitos Lagoon outlets. The results verified the adequacy of the 72 hour General Advisory issued by DEH to avoid ocean water contact following rain. The study showed bacterial levels at the various distanaces away from the lagoon outlets dropped within State standards within three days.

Standards for bacterial indicators are developed by state or federal agencies based upon epidemiology studies that correlate water quality to illnesses reported by swimmers. Most of these studies have been conducted at east coast beaches, and only one in California. During the summer of 2003, a U.S. EPA coordinated epidemiology study with 7000 participants sought to document the human illness rate in relation to water quality in Mission Bay.

¹ The 1115 closure and advisory day total does not include beaches posted under a chronic status due to on-going sources of contamination. Chronic locations include the Tijuana Slough Nat'l Wildlife Refuge Shoreline and Border Field State Park, and the Children's Pool in La Jolla. Although monitoring results at these beaches were occasionally within State standards, the presence of known sources of contamination, I.e., a sewage contaminated river and seals, respectively, require these areas to remain posted to protect public health.

The Mission Bay epidemiology study results will be compared to those of ten other epidemiology studies conducted this past summer at Great Lake and east coast beaches. These studies will update the scientific data the U.S. EPA uses in managing health risks in marine recreational waters. The study in Mission Bay also analized water samples for pathogens and tested alternative indicators in hopes of developing new water testing methodologies.

* Changes in shoreline sampling protocols and frequencies

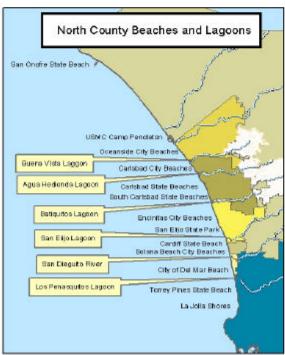
The City of San Diego stopped sampling at ten ocean shoreline stations in July 2000. DEH continued sampling at eight of these ten stations during AB 411 (Apr - Oct) season only; therefore these stations were not sampled between November and March in subsequent years.

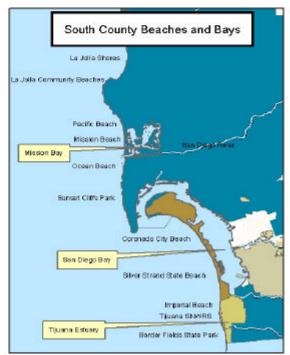
The City of San Diego stopped sampling at twenty shoreline stations in Mission Bay in July 2001. DEH continued sampling at 17 of these 20 stations in Mission Bay during AB 411 season only; therefore these stations were not sampled between November and March in subsequent years.

DEH sampling protocol was changed in April 2001. Routine sampling stations were moved to 25 yards downcoast from the mixing zone to conform to the State's and other agencies recommendations.

San Diego County coastline with beaches, river and lagoon outlets, and municipal boundaries of coastal cities.

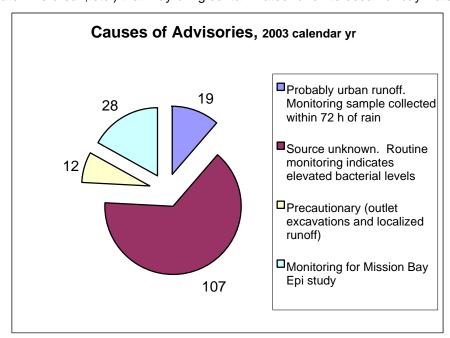






Advisory/ Warning

An advisory or warning is the placement of signs at a beach that warns the public against water contact due to the increased risk of illness. An advisory is usually the consequence of bacteria levels in monitoring results exceeding State standards. The source of bacteria is usually unknown, but may include fecal waste from domestic pets, wildlife, birds or humans, soils, and decaying plant matter. An advisory is also issued as a precaution when flow from a coastal outlet is restored to the ocean or another event (isolated rain, water line break, etc.) that may bring contaminated runoff to ocean or bay waters.



CONTACT WITH THIS WATER
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HEALTH STANDARDS

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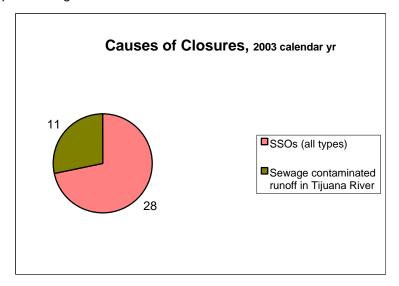
temporary sign

This graph does not include beaches posted under a chronic status.

For a location's recent trend in water quality basd upon bacterial monitoring, go to www.healthebay.org , and look for the Beach Report Card

Closure

A closure is the placement of signs at a beach that informs the public the area is closed to water contact due to a sewage spill or sewage contaminated runoff that may impact ocean or bay waters. Sewage contaminated water poses the greatest health risk to ocean users.

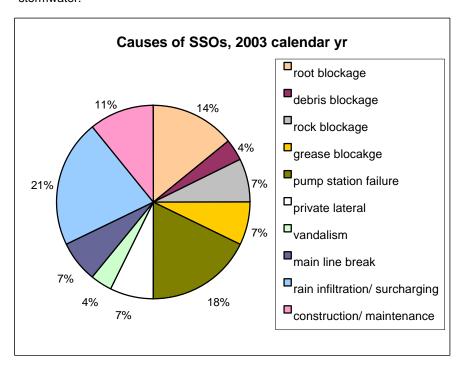




temporary sign

This graph does not include beaches posted under a chronic status.

SSO - sanitary sewer overflow. An unintentional release from the sewer conveyance system. This system is separate from the storm drain system which is designed to prevent flooding by stormwater.



GENERAL ADVISORY for coastal waters following rain / permanently posted storm drain outlets

Stormwater flows from rain or other water sources wash urban pollutants (pet wastes, fertilizers, auto fluids, etc.) into the storm drain system. This creates urban runoff flows from coastal storm drain, river, and lagoon outlets that contaminate ocean and bay waters. The Department of Environmental Health (DEH) issues a <u>GENERAL ADVISORY to avoid contact with all ocean and bay waters for 72 hours after rainfall</u> amounts greater than 0.2 inches.

A General Advisory is listed on the DEH phone message (619) 338-2073, internet (www.earth911.org "Beach Water Quality"), and San Diego Union Tribune weather page. Due to logistical constraints (53 miles of recreational beaches), additional temporary warning signs are NOT posted during General Advisories.

During dry weather, the DEH advises avoiding contact with runoff from storm drain, river, and lagoon outlets as well as ocean or bay waters within 75 feet of an outlet.

The following coastal outlets can have urban runoff flows during dry weather. These locations are posted with permanent DEH metal storm drain outlet warning signs:

Oceanside

San Luis Rey River outlet Wisconsin Street

Carlsbad

Buena Vista Lagoon outlet
Carlsbad Village Drive
Tamarack (Agua Hedionda Lagoon outlet)
South Carlsbad State Beach at Batiquitos Lagoon outlet

Encinitas

Moonlight Beach at Cottonwood Creek outlet Cardiff State Beach at San Elijo Lagoon outlet

Solana Beach

Fletcher Cove Seascape Beach Park

Del Mar

San Dieguito River Beach 15th Street

City of San Diego

Torrey Pines State Beach at Los Peñasquitos Lagoon outlet Avenida De La Playa South Casa Beach Coast Blvd/ n Nicholson Pt P.B. Point Grand Ave Dog Beach at San Diego River outlet



permanent sign

For a map of sampling locations at San Diego County beaches, go to www.earth911.org ,enter zip code 92112 and select 'Beach Water Quality'

Description of San Diego County beaches

State Beach that includes San Mateo Creek outlet, Old Man's and Trail Six San Onofre Camp Pendleton USMC beaches that include San Onofre Creek outlet and Camp Del Mar Oceanside From Harbor Beach south to St. Malo. Includes Buccaneer Beach

Carlsbad Includes Buena Vista Lagoon outlet, municipal beach, and Carlsbad State beaches **Encinitas** From Leucadia south through Cardiff State Beach. Includes Moonlight Beach.

Solana Beach Includes Tide Beach Park, Fletcher Cove, and Seascape Beach Park From San Dieguito River Beach south through Anderson Canyon Del Mar

Includes 18 swimming, sailing and PWC areas San Diego, Mission Bay

San Diego, ocean beaches Torrey Pines State Beach, La Jolla, Pacific, Mission and Ocean beaches and Sunset Cliffs Park

San Diego Bay Includes eight locations on San Diego Bay

Includes Coronado municipal beach and Silver Strand State Beach Coronado

Imperial Beach From Camp Surf south through End of Seacoast Drive

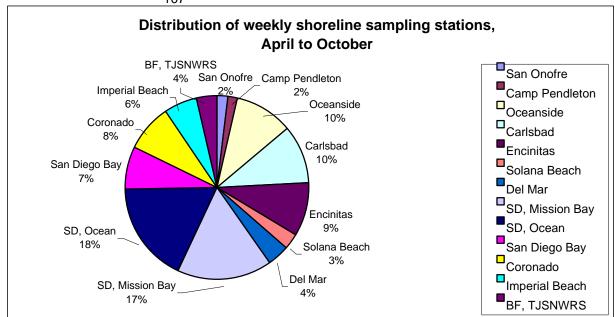
Border Field State Park and Tijuana Slough National Wildlife Refuge Shoreline BF, TJSNWRS

Number of weekly sampling stations between April 1 and October 31 each year

San Onofre 2 2 Camp Pendleton Oceanside 11 Carlsbad 11 **Encinitas** 10 Solana Beach 3 Del Mar 4 SD, Mission Bay 18 SD, ocean 19 8 San Diego Bay Coronado

9 includes four stations sampled 2x week

Imperial Beach 6 BF, TJSNWRS 4 107



This chart shows all the weekly sampling at San Diego County beaches. Sampling is conducted by the following agencies: County of San Diego Department of Environmental Health (DEH), City of Oceanside, Encina Wastewater Authority, San Elijo Water Reclamation Facility, City of San Diego, City of Coronado, and the San Onofre Nuclear Generating Station.

For a location's recent trend in water quality basd upon bacterial monitoring, go to www.healthebay.org, and look for the Beach Report Card

Yearly comparisons between April 1 and October 31

By coastal jurisdiction

C	Closure and Advisory events			
				2003 Epi
				study in
				Mission
	2001	2002	2003	Bay
San Onofre	4	2	2	
Camp Pendleton	0	0	1	
Oceanside	8	8	13	
Carlsbad	5	4	2	
Encinitas	10	3	9	
Solana Beach	2	1	2	
Del Mar	0	4	3	
Mission Bay, SD	64	44	36	28e /70d
ocean beaches, SD	20	26	29	
San Diego Bay	28	20	14	
Coronado	5	2	3	
Imperial Beach	8	4	7	
BF, TJSNWRS	5	4	2	
_	159	122	123	=

Days posted

2000	2001	2002	2003
0	13	4	11
1	0	0	4
36	19	26	40
6	14	10	6
76	28	15	29
2	5	2	7
20	0	12	17
592	349	285	136
266	201	93	141
85	171	333	55
15	9	4	15
11	22	10	25
46	12	10	7
1156	843	804	493

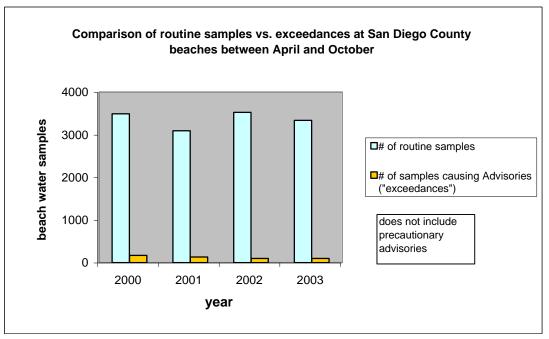
totals per year for April to October

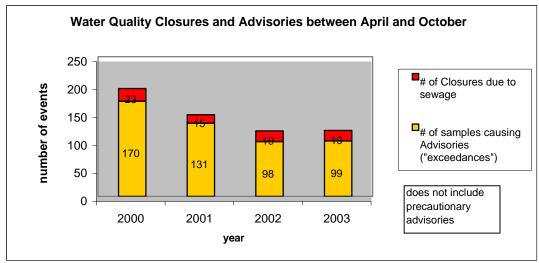
By County as a whole

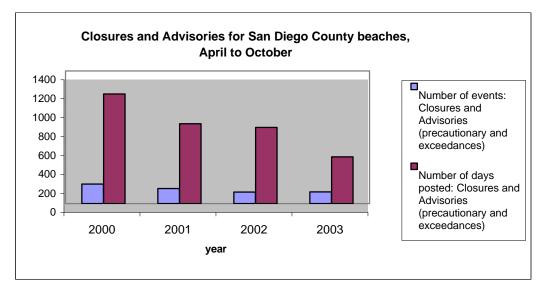
Number of events (Closures and Advisories)
Number of days posted (Closures and Advisories)
of routine samples
of samples causing Advisories
of Closures due to sewage

2000	2001	2002	2003
206	159	122	123
1156	843	804	493
3491	3092	3522	3334
170	131	98	99
23	15	19	19

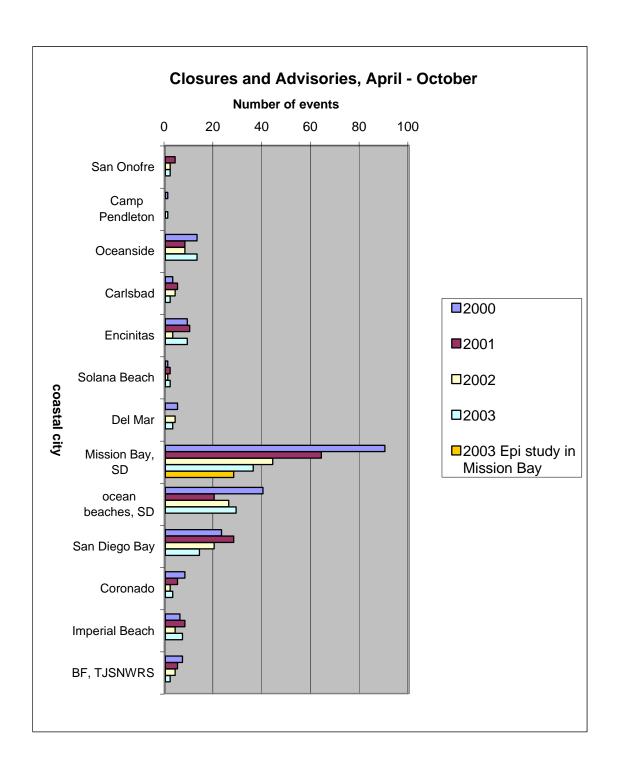
These tables do not include beaches posted under a chronic status.



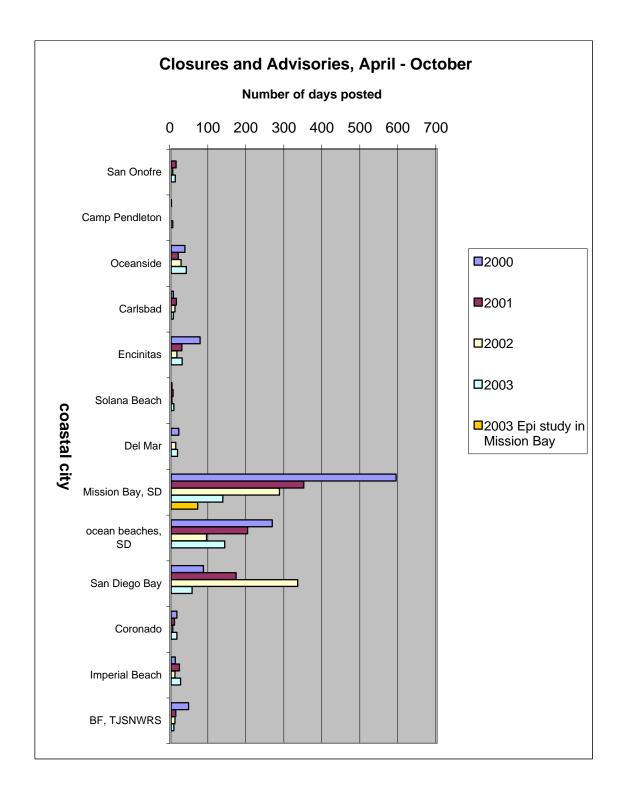




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